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AUTHOR Batts, Michael S.
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ABSTRACT

This study examined the feasibility of creating a viable citation index in the humanities. A total of 5924 citations appended to articles written between 1971-1973 and appearing in three English language literary criticism journals were analyzed for their form and degree of content relationship to the subject matter of the articles in which they appeared. For the purposes of this study, a resolution factor of 100 percent and a pertinency and recall factor of 60 percent were demanded as minimum requirements for creating a viable index. Results proved unsatisfactory; a resolution factor of only 75 percent was achieved with a pertinency factor of 48 percent and a recall factor of 83 percent. It was also found that the number of books cited exceeded all other forms of citations, the form and manner in which the citations appeared made their extraction difficult, and the half-life of research in the humanities was longer than that of the sciences. The study had two major limitations: the area of research covered was limited to a small segment of the humanities literature, and the journals selected were representative of the "best" in existing citation practices--a subjective judgement. Appendices include the forms used to collect statistical data on the citations and a sample article with analysis of citations and data sheet. (JPF)

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On the Feasibility of Citation Indexes in the Humanities

by Michael S. Batts

Research Report submitted in partial
fulfilment of the requirements for
the degree of Master of Library Science
in the University of Toronto

August 1974

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Professor John M. Robson
Professor Ann H. Schabas
Professor John P. Wilkinson (supervisor)

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INTRODUCTION

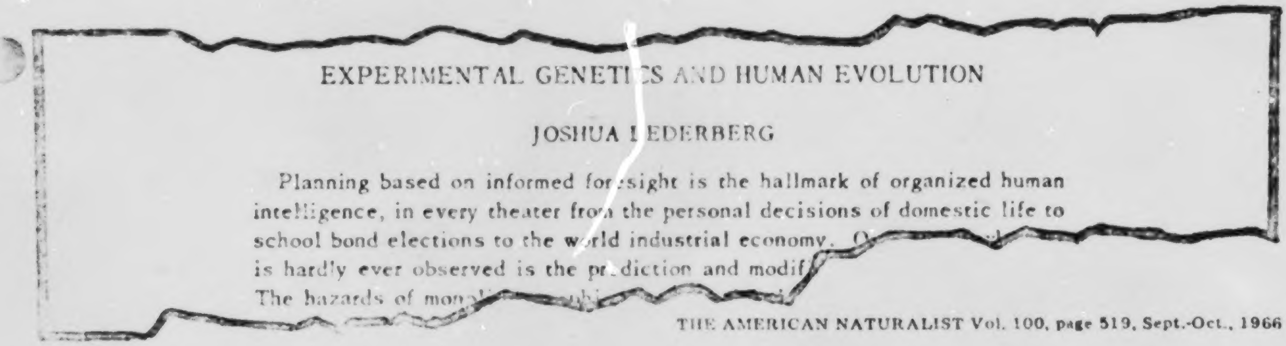
The first volume of the Science Citation Index (SCI) appeared in 1963. It represented a major new development in the indexing field and was largely brought about by dissatisfaction with traditional methods of indexing which were proving to be too slow, too expensive, and not precise enough to satisfy the demands of research. The simple principle upon which the index is based was not entirely new, since it is analogous to the principle on which case law depends, whereby judgments are developed on the basis of precedents cited by the contending parties. The citation index, too, depends upon the tenet that all new research is based upon earlier research. Since the earlier work is normally referred to in the course of presenting the new findings, these references (citations) give access to works directly related to the work in which they are cited. Of the numerous definitions of this new form of index the following is a typical example: "A citation index is an ordered list of cited articles each of which is accompanied by a list of citing articles" (15, 650).[1] Entry into the index is not made through a subject term but via a known item on a given topic. This will lead to the items that have cited the known item and to further items cited by or citing them. A brief form of subject index may be provided (e.g. permuterm index) to enable a first citation to be located if none is known. The following illustrations are taken from the SCI.

---

[1] Numbers in parentheses following quotations refer to the items listed alphabetically in appendix 3A(nos. 1-28) and/or 4.

How to Do a Search

Starting point for most searches in the *SCI®* is a specific work. For example, suppose you are interested in the subject of Lederberg's 1966 article, "Experimental genetics and human evolution."



EXPERIMENTAL GENETICS AND HUMAN EVOLUTION

JOSHUA LEDERBERG

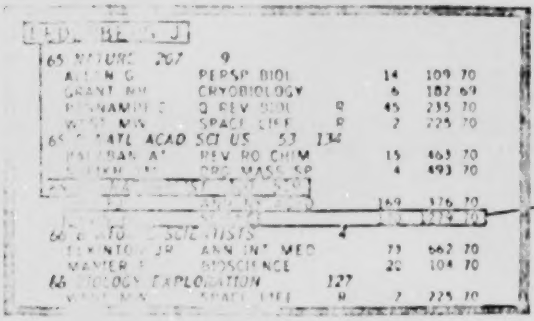
Planning based on informed foresight is the hallmark of organized human intelligence, in every theater from the personal decisions of domestic life to school bond elections to the world industrial economy. O... is hardly ever observed is the prediction and modif... The hazards of mon...

THE AMERICAN NATURALIST Vol. 100, page 519, Sept.-Oct., 1966

In the *SCI*, this subject is identified by the specific citation:

LEDERBERG J
66 AM NATURALIST 100 519

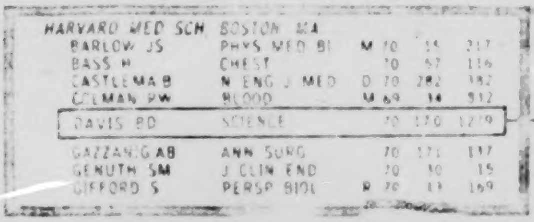
To find where a specific paper, book, thesis, or technical note, etc., has been cited in a current journal article, look in the *Citation Index* section of the *SCI* under the specific citation.



```
LEDERBERG J
65 NATURE   207     9
  ALLEN G        PERSP BIOL          14   109 70
  GRANT NH       CRYOBIOLOGY          6   182 69
  [illegible]NAMPE C  Q REV BIOL     R   45   235 70
  WEST MN        SPACE LIFE      R    2   225 70
65 [illegible] NATL ACAD SCI US   53   134
  [illegible]BAN A    REV RO CHIM        15   463 70
  [illegible]         ORG MASS SP         4   493 70
[illegible]
                                    169   376 70
[illegible]                                    1279 70
66 [illegible] SCIENTISTS              4
  [illegible]NTON JR  ANN INT MED        73   662 70
  MAYER [illegible]   BIOSCIENCE         20   104 70
66 [illegible]OLOGY EXPLORATION        127
  WEST MN        SPACE LIFE      R    2   225 70
```

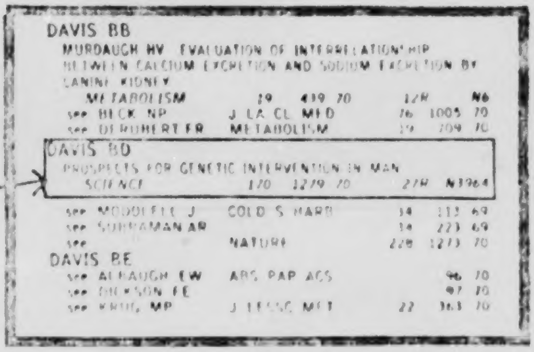
Any article *cited* during the period indexed is listed alphabetically by name of first author. Cited works by that author are arranged chronologically, their citations printed in bold italic. Beneath the cited item, you will find a list of current *citing* articles. In this case, the 1966 Lederberg article in *American Naturalist* 100, 519 was cited in 1970 by B.D. Davis in *Science* 170, 1279. Citing items other than substantive journal articles are characterized by a code indicating the nature of the item whether a review article, letter, editorial, technical note, etc. In this case, the lack of such a code indicates a substantive journal article.

To find journal articles and other items published by a particular organization, look in the *Corporate Index* under the organization's name.



```
HARVARD MED SCH  BOSTON MA
   BARLOW JS       PHYS MED BI     M 70   15   217
   BASS H          CHEST             70   57   116
   CASTLEMA B      N ENG J MED     D 70  282   382
   COLEMAN RW      BLOOD           M 69   34   512
   DAVIS BD        SCIENCE           70  170  1279
   GAZZANIG AB     ANN SURG          70  171   117
   GENUTH SM       J CLIN END        70   30    15
   GIFFORD S       PERSP BIOL      R 70   13   169
```

To find the full titles, coauthors, and bibliographic data for the citing work or works attributed to an organization, look in the *Source Index* under the name of the first author.



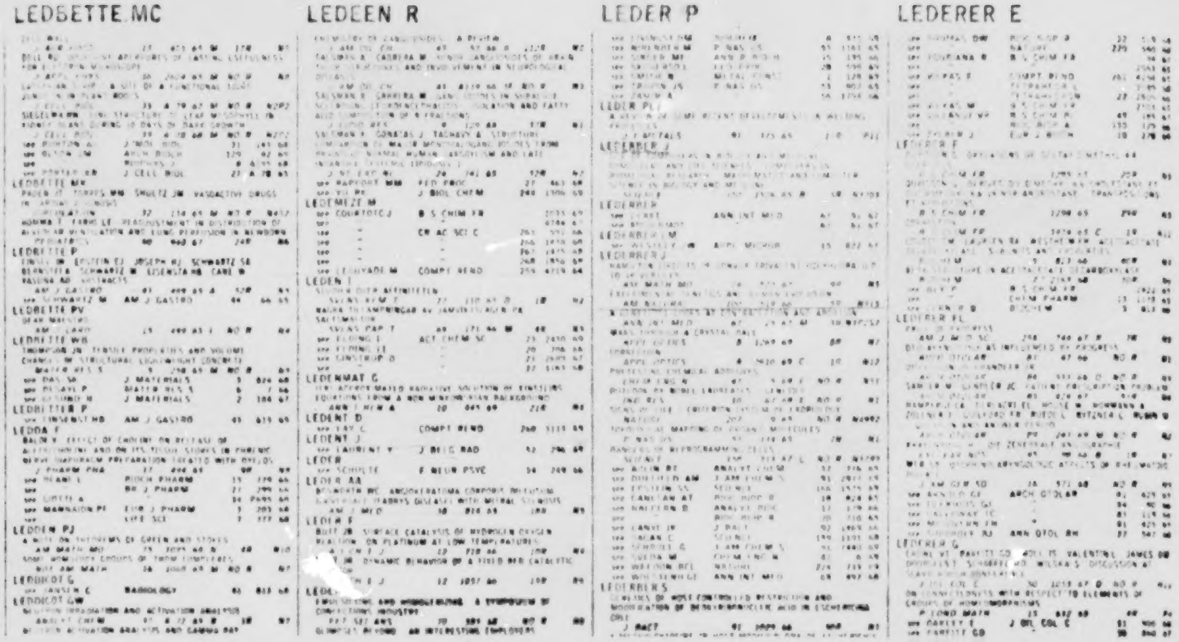
```
DAVIS BB
  MURDAUGH HV  EVALUATION OF INTERRELATIONSHIP
  BETWEEN CALCIUM EXCRETION AND SODIUM EXCRETION BY
  CANINE KIDNEY
     METABOLISM          19    439 70          12R        N6
  see BECK NP          J LA CL MED             76  1005 70
  see DERUBERT FR      METABOLISM              19   709 70
DAVIS BD
  PROSPECTS FOR GENETIC INTERVENTION IN MAN
     SCIENCE             170   1279 70          27R    N3964
  see MODDLEFEE J      COLD S HARB             34   113 69
  see SUBRAMAN AR                              34   223 69
  see                  NATURE                 228  1273 70
DAVIS BE
  see ALBAUGH EW       ABS PAP ACS                   96 70
  see DICKSON FE                                     97 70
  see KRUG MP          J LESSC MET             22   363 70
```

All the current articles published in the period indexed are listed alphabetically by first author. The *full title*, as in the Davis article above, is given (or an English translation of titles in other languages), along with *all* coauthors, and journal, volume, page, year, and number of references cited. Items other than substantive journal articles are coded, e.g., *C* for *correction*, *R* for *review*, *L* for *letter*, *M* for *meeting*. The *SCI Source Index* is essentially a calendar year *author index* covering *all* journal items processed by the closing date for the current year. All journal issues available for any given year are included in the latest *SCI Annual*. The *SCI Source Index* can also be used independently of the *Citation Index*. While the *Citation Index* is a *subject index*, the *Source Index* is the comprehensive *author index* of science. All coauthors are cross referenced to first author entries.

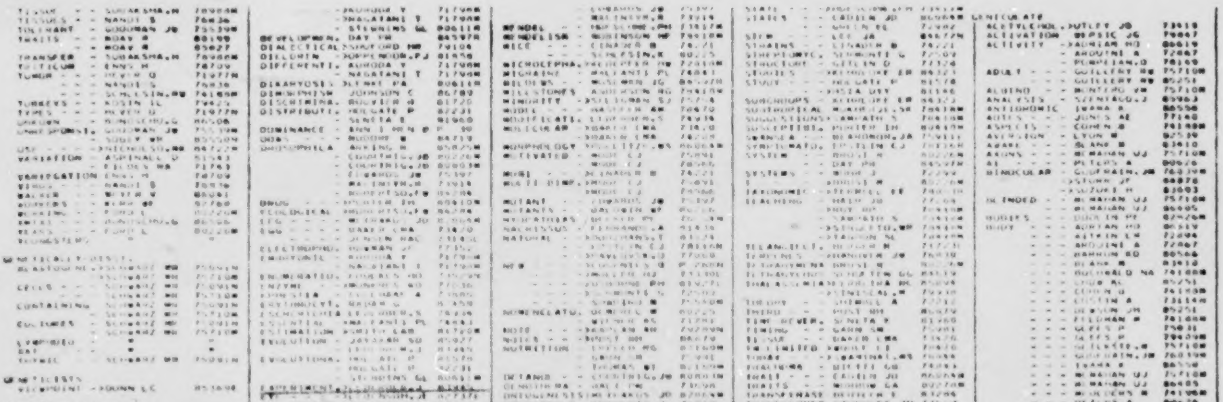
Corporate Index Section

Under the name of each organization you will find citations for all items attributed to the organization and published during the period indexed. In this example the 1970 article by Davis is listed under Harvard Medical School, Boston, Ma., along with other articles attributed to that organization.

Source Index


LEDBETTE MC
LEDEEN R
LEDER P
LEDERER E

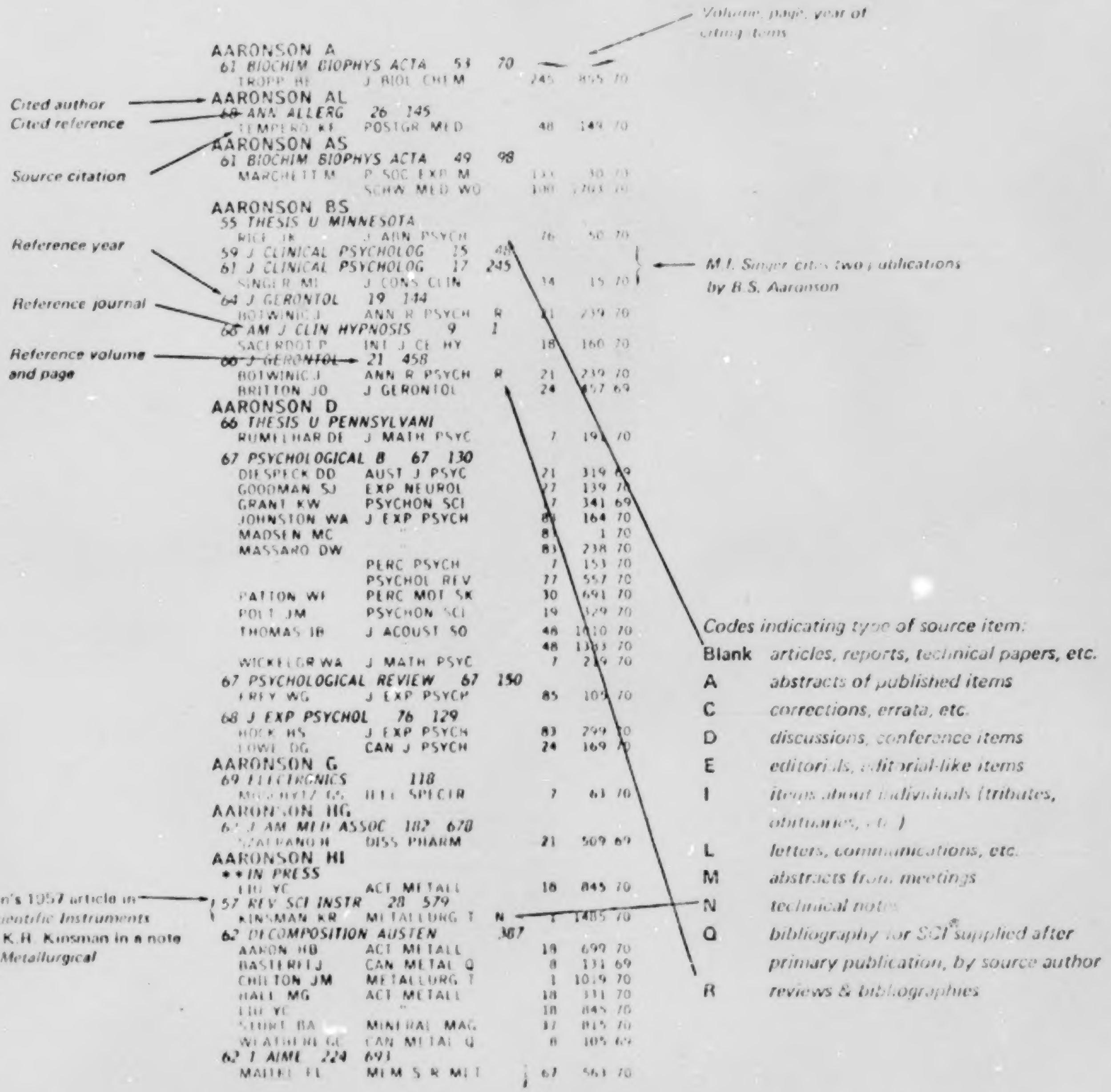
Permuterm Index



Citation Index

Find source items that cite a specific paper:

1. *locate cited author*
2. *locate reference year*
3. *locate reference publication, volume, and page*
4. *note that source (citing) items follow reference (cited) items*



```
AARONSON A
 61 BIOCHIM BIOPHYS ACTA   53   70
   TROPP BE       J BIOL CHEM            245    855 70
AARONSON AL
 68 ANN ALLERG   26  145
   TEMPERO KF     POSTGR MED              48    149 70
AARONSON AS
 61 BIOCHIM BIOPHYS ACTA   49   98
   MARCHETTI M    P SOC EXP M            133     30 70
                  SCHW MED WO            100   1703 70
AARONSON BS
 55 THESIS U MINNESOTA
   RICE JR        J ABN PSYCH             76     50 70
 59 J CLINICAL PSYCHOLOG   15   48
 61 J CLINICAL PSYCHOLOG   17  245
   SINGER MI      J CONS CLIN             34     15 70
 64 J GERONTOL   19  144
   BOTWINICK J    ANN R PSYCH       R     21    239 70
 66 AM J CLIN HYPNOSIS    9    1
   SACERDOTE P    INT J CL HY             18    160 70
 66 J GERONTOL   21  458
   BOTWINICK J    ANN R PSYCH       R     21    239 70
   BRITTON JO     J GERONTOL              24    457 69
AARONSON D
 66 THESIS U PENNSYLVANI
   RUMELHART DE   J MATH PSYC              7    191 70
 67 PSYCHOLOGICAL B   67  130
   DIESPECK DD    AUST J PSYC             21    319 69
   GOODMAN SJ     EXP NEUROL              27    139 70
   GRANT KW       PSYCHON SCI             17    341 69
   JOHNSTON WA    J EXP PSYCH             83    164 70
   MADSEN MC         "                    83      1 70
   MASSARO DW        "                    83    238 70
                  PERC PSYCH               7    153 70
                  PSYCHOL REV             77    557 70
   PATTON WE      PERC MOT SK             30    691 70
   POLT JM        PSYCHON SCI             19    329 70
   THOMAS IB      J ACOUST SO             48   1010 70
                                          48   1383 70
   WICKELGR WA    J MATH PSYC              7    219 70
 67 PSYCHOLOGICAL REVIEW   67  150
   FREY WG        J EXP PSYCH             85    109 70
 68 J EXP PSYCHOL   76  129
   HOCK HS        J EXP PSYCH             83    299 70
   LOWE DG        CAN J PSYCH             24    169 70
AARONSON G
 69 ELECTRONICS        118
   MOGHAYTZ GA    IEEE SPECTR              7     61 70
AARONSON HG
 62 J AM MED ASSOC  182  678
   SZALFANO H     DISS PHARM              21    509 69
AARONSON HI
 ** IN PRESS
   LIU YC         ACT METALL              18    845 70
 57 REV SCI INSTR   28  579
   KINSMAN KR     METALLURG T       N      1   1485 70
 62 DECOMPOSITION AUSTEN          387
   AARON HB       ACT METALL              18    699 70
   BASTERFI J     CAN METAL Q              8    131 69
   CHILTON JM     METALLURG T              1   1019 70
   HALL MG        ACT METALL              18    331 70
   LIU YC            "                    18    845 70
   STONE BA       MINERAL MAG             37    815 70
   WEATHERL GC    CAN METAL Q              8    105 69
 62 T AIME   224  691
   MAITRE FL      MEM S R MET             67    563 70
```

M.I. Singer cites two publications by B.S. Aaronson

H.I. Aaronson's 1957 article in Review of Scientific Instruments was cited by K.R. Kinsman in a note published in Metallurgical Transactions

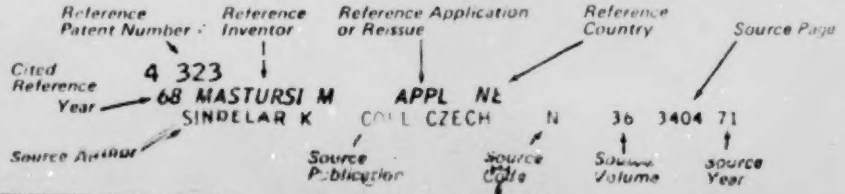
Codes indicating type of source item:

Blank	*articles, reports, technical papers, etc.*
A	*abstracts of published items*
C	*corrections, errata, etc.*
D	*discussions, conference items*
E	*editorials, editorial-like items*
I	*items about individuals (tributes, obituaries, etc.)*
L	*letters, communications, etc.*
M	*abstracts from meetings*
N	*technical notes*
Q	*bibliography for SCI® supplied after primary publication, by source author*
R	*reviews & bibliographies*

To locate sources that cite a particular work, first look for the name of the cited or reference author in bold roman capital letters on the left. For each cited paper by that author there is a line in bold italics, giving reference year, title abbreviation, volume and page numbers. When the same reference has been cited more than once, the source citations are arranged alphabetically by first author. Each source citation gives the name of the first author, followed by journal title abbreviation, source item type code, and volume, page, and year. Though only first authors are given in the *Citation Index* proper, all authors will be listed in the *Source Index*.

Patent Citation Index

When a patent is cited in a source item the arrangement of the information is altered slightly. As shown in the example below, the cited patent number is used in place of the authors last name. The Patent Section is numerically arranged. Additional information is displayed in sequence as: cited reference year, inventor's name, country of issuance, and application or reissue status.



```
4 323
68 MASTURSI M       APPL  NL
   SINDELAR K    COLL CZECH     N    36  3404  71
```

Further discussion of the function of citation indexes will follow below. For the moment it is more important to note that the Science Citation Index has maintained itself for ten years and that during this period the same principle has been utilized to create similar indexes in other fields, for example, in the Journal of Histochemistry and Cytochemistry and Shepard's Law Review Citations. In theory at least this principle ought to prove useful in all fields of scholarly endeavour where advances are based on an accrued body of knowledge and experience. Citation indexes have indeed been proposed specifically for the social sciences and the humanities, and it is precisely because scepticism about the utility of such an indexing system in the field of the humanities exists that the present investigation has been undertaken.

It is likely that the first reaction of the vast majority of humanists to the proposal, that a "Humanities Citation Index" (HCI) should be developed along the same lines as the SCI, would be strongly if not violently negative. Humanists seem not infrequently to resent even the suggestion that their work may be susceptible to subject-analysis for the purpose of indexing, and the general concept of the enumerative bibliographer seems barely to have progressed beyond Samuel Johnson's (tongue-in-cheek) definition of a lexicographer as "a harmless drudge." Yet the so-called information explosion has affected the humanities no less than the sciences: "Literature searches" are part of the daily routine of scholarship in the humanities, and the use of footnote references as a starting-point for the compilation of retrospective bibliographies is a commonplace.

The indifference or antipathy on the part of scholars in the humanities to systematic bibliography in the widest sense of the term is perhaps due in part to a lack of appreciation of what bibliographies, indexes, and the like can offer; but in part also to the fact that loss of time and duplication of effort are not generally in the humanities an inhibiting financial factor. Research costs are low in comparison with those in the sciences and the findings of research rarely translatable into the kind of financial reward that would make priority claims in research a matter of urgency. It would be impossible, however, to deny that systematic bibliography in the humanities is in anything but a state of chaos, a state that leads constantly to frustration and confusion. For example, there is no general method of registering research projects undertaken, and bibliographies appear far too late to be of much use in preventing the duplication of effort. When they do appear, they are for the most part poorly organized and lack any adequate form of indexing. More often than not they are heavily biased toward research from the country in which they appear.

Although many of the weaknesses of current systematic bibliographies may derive from factors unrelated to technique—for example, from an almost total lack of international co-operation--it nevertheless seems evident that an entirely fresh approach is needed to the whole question of how published research should be made accessible to scholars. Since the citing of relevant authorities has been one of the most enduring traits in humanistic scholarship throughout its entire history, it seems not illogical to consider to what extent citations might be used in an indexing function in humanistic scholarly writing, as they are currently being used in the sciences. In order to investigate this possibility convincingly, however, it is necessary to provide a frame of reference within which to proceed, for, although a comparison could be made with existing citation indexes in the sciences, it would lack a theoretical foundation. It would be necessary to prove not only that the humanities and sciences use similar citation patterns, but also that citation indexes in the sciences are sound. The logical procedure is therefore to go back beyond the citation index--which is after all only one of a number of forms of index--to the concept of the index _per se_, and to proceed from an analysis of the nature of any kind of index to the possibility of citation indexes in the humanities.

The major difficulty in the following investigation occurs when the transference is made from the theoretical to the practical level. The theory of indexing is relatively simple, and the methods, though complex in many instances, susceptible to statistical evaluation. However, if intellectual content is to be indexed, then values come into play that are essentially relative and undefinable. It is one thing to evaluate a word-index or an index of names, quite another to evaluate an index where the terms are for the most part abstract intellectual concepts, and where the author, indexer, and index-user may each view the content from a quite different point of view. For this reason we have made every effort to adduce as much evidence as possible that is both relevant and quantifiable; and, where necessarily undefinable terms are used, these have been circumscribed as closely as possible.

It must, however, be admitted from the outset that the investigation does not deal with absolutely quantifiable variables and the conclusions will therefore be only as valid as the postulates are intellectually convincing.

I

THE INDEX PER SE AND THE CITATION INDEX

An index is a method of finding something by means of co-ordinates, which consist normally of a term to designate the item sought and a term designating the location of the item. It is obvious that nothing can be located unless the location is specified, and that the specification of a location is pointless without any indication of what is to be found there. In written materials the index normally takes the form of a subject term (defining the object sought) and a bibliographical (location) term. The contents page of a book, for example, is a primitive form of index couched in general terms which may be very brief or include a whole range of topics (specified or not). A more detailed form of index is often found at the end of a book, consisting of subject terms and page numbers. These subject terms may be simple "uniterms," including, for example, names and places, or complex combinations of words in natural or inverted order. Compare, for example, the following extracts from the indexes to the books referred to in note 11 (p. 34).

Perry/Kent

- Abstracts, 120–140
  - annotative, 120
  - auto-, 124–126
  - descriptive, 120
  - extracts, 123–126
  - formatted, 126
  - functions, 122–123
  - indicative, 120
  - informative, 120–121
  - mini, 126–132
  - pseudo, 121–122
  - role of meaning, 220–221
- Automatic classification, 118–120; *see also* Classification
- Auxiliary conjunction, in vocabulary control and question analysis, 148–149

- Behavioral studies, in evaluation of systems, 320–321
- Between barriers strategy, manipulation, 173, 183–203; *see also* Search Strategies
- Binary numbers, 241–245
- Broader terms, definition, 318

Becker/Hayes

- **A priori: estimate of environment, 360; indexing, 137; probability, 128; relations, 47, 262, 377**
- **A. B. Dick, 79, 86**
- **Abstracting, 19, 63, 130, 131; experiments in, 41; formalized, 57**
- **Abstraction: of compiler language, 123; of typical user, 225**
- **Abstracts: as document representation, 260 f., 363; in CIA system, 168; in information framework, 71 ff.; in searching, 124 f.; in Western Reserve system, 148, 161; resulting from analysis, 110 f.**
- **Acceleration: of films, 199**
- **Access, *see* Usage**
- **Access times, 179, 188, 195, 273, 289**
- **Accession number, 21, 53; *see also* Identification number**
- **Account number reading, 101**
- **Accounting machines, 102, 166**
- **Accounting systems, 227, 269**
- **Accounting trail, 272**
- **Accuracy, 272; in processing requests, 127, 159; of data, 118; of measurement, 357; of model, 331; of response, 361; *see also* Errors**
- **Address access, 182**
- **Address generation, 412**
- **Addressograph-Multigraph Corporation, 79**
- **Addressograph plates (conversion to machine language), 105**
- **Adkinson, Burton W., 7, 19**
- **Administrative control of vocabulary, 37**
- **Advanced Information Systems Company, 266 f.**
- **Advanced techniques vs. conventional library, 39**
- **Aeronutronics, 179**
- **Algebra, 332, 345; of classes, 335**
- **ALGOL (ALGebraic Oriented Language), 124**
- **Alphabetic: character recognition, 101; characters (in semantic factors), 58; classification by type of, 30; coding, 91; information, 69, 77, 92, 112, 122; in machine language, 90; type fonts, 100**
- **Alphabetical order, 25, 35, 38, 132, 142; index, 66**
- **Alpha-numerical: character recognition, 104; characters in machine language,**

Vickery

After the page numbers of some entries, there are author references to items in the bibliography that are relevant to the subject.

- Activities, 81–82
- Activity classification, 144–145
- Activity sampling, 146
- Allowed time, 158
- Alphabetical keyword list, 100
- *And* logic, 122
- Arithmetic growth, 179
- Arrow diagram, 107
- ASCII character code, 67
- Assigned elements, 59, 89
- Associative search, 91, Taube
- Attitudes, 31
- Attribute analysis, 23
- Classification, 102 ff., 204 ff., Bliss, Metcalfe, Ranganathan, Vickery
- Classificatory analysis, 23
- Classified thesaurus, 96, 111
- Clustering terms, 106, 167, Borko, Sparck Jones
- Collateral relations, 102
- Communication
  - among chemists, 2, Halbert
  - characteristics, 35, Cherry, Garvey, Lasswell, Thayer
  - factors, 46
  - line, 6

The common factor to all index entries, whatever their form, is that they are derived from the content of the work as a whole. Although every index contains many entries that might be called neutral, it is nevertheless clear that most entries will reflect to a greater or lesser extent the topic of the book. A book on publishing history and a book on the history of printing techniques, for example, will have some entries in common, but also other entries specific to their individual topics, such as perhaps advertising and sales' techniques in the one case and type faces and foundries in the other. What should or should not be indexed is something about which authors, publishers, and reviewers seldom agree; but it is safe to assume that the professional, uncommitted indexer endeavours to cater to the anticipated needs of all classes of reader, and not only to the audience for which the work may originally have been intended. On the other hand it is equally safe to assume that it is the subject of the book which determines in the first instance the content of the entries in the index. Aside from all questions of purpose, however, and irrespective of the nature of the material to be indexed, the form of the index entries remains essentially the same, namely the combination of what and where--referred to in the course of this paper as the subject and bibliographical terms.

There are two major decisions to be made before any index can be produced. The first consists in determining the appropriate degree of specificity for both terms in the entry. For example, chapter headings listing provinces in a history of printing in Canada might satisfy some readers; others would demand that every individual printer, place, foundry, etc., be listed, with, of course, the page numbers on which they were mentioned. In books with large pages and/or double columns even a page number may not be deemed precise enough, and the reader may therefore be referred to a column or to part of a column. "As the Lord says in the Good Book" might satisfy the audience of a sermon, but the reader demands at least chapter and verse, while a not uncommon demand of the contemporary scholar is the concordance which lists every single word (sometimes even punctuation) and which therefore represents, for the foreseeable future at least, the ultimate in indexing. The biblical concordance is the first and probably the best example of this detailed form of indexing.

The other major problem facing the indexer is a practical one which derives in part from the first consideration. Producing an index may not require a high degree of subject expertise on the part of the indexer, but he must be in a position to comprehend the material in principle and understand the author's purpose in writing. Indexing is therefore an intellectual process which demands intelligence and skill and which consumes a considerable amount of time. The more specific the subject terms, the more valuable is the index to the user, since he finds more precisely what he wants with greater economy of effort (although over-specificity can of course lead to a loss of economy from the user's point of view, if the subject terms are so detailed as to be incomprehensible without reference to their context). The more specific the subject terms, however, the greater is the intellectual effort demanded of the indexer and the greater the bulk of the index. The process therefore incurs proportionately higher costs. Every index is consequently the result of compromise, the attempt to achieve an acceptable balance between the anticipated demands of the users of the index (specificity and convenience) on the one hand and the economic factors involved in its production (expenditure of time and materials) on the other.

In scholarly literature--with which we shall solely be concerned--it is normal for books to be indexed in some detail. This is, as has been stressed, a complex task which may further delay the publication of the book, and it is, among other things, precisely the desire for faster publication that has led to the present situation in which much the greater part of scholarly literature, and especially that part of it supposedly "on the frontiers of research," appears not in book form, but in the form of periodical articles. The vast quantity of contemporary periodical publication, however, and the inevitable time lag that ensues between the date of publication of the original and its index entries are such that very few journals attempt themselves to include by issue or annually any detailed form of current subject index. The difficulties inherent in any attempt to provide an extraneous current index to a considerable number of periodicals are clearly insuperable, and one method which has been proposed as a solution to this problem is the utilization of the citations contained in scholarly articles as index entries. By "citation" is meant in this context any reference which is appended to, rather than included in the body of, the text of any scholarly work, and which cites any other work in such a way that the reader is expected to be able to find it. Just as the author of a book gathers together and lists the works he has consulted, thereby providing a fairly accurate indication of the direction his research has taken, if not of his findings, so too the author of an article provides through his citations a list of the works which bear on his research. Scholarly literature, it can be argued, is in effect self-indexing (see below p. 18).

Bearing in mind what was said above about the form of index entries, it follows that citations must contain both a subject and a bibliographical term (what and where), if they are to be used as index entries. That part of the citation which contains the author and title of the work cited is therefore the equivalent of the subject term in an index entry, and the designation of the journal in which the article appears (or the place, date, publisher, etc., of a book) serves as the bibliographical term which enables the work to be located. There would after all be no point in citing a work without sufficient data to enable it to be found, and little use in citing a location without any indication of what is to be found there.

It also follows that the efficacy of such citations as index entries will depend on the degree of content orientation of the subject term and the accuracy of the bibliographical term. Just as the index entries in a book on the history of printing, reflecting primarily the particular topics discussed and the views expressed by the author, will therefore be of greater value to a reader interested in the history of printing than to a sociologist studying the educational levels of artisans in the nineteenth century (though the latter might well find some useful entries); so too the citations, if they are to be valuable to the expert for whom the text is written, must relate to the content of the text in which they are cited. They must also be sufficiently clear and exact for him to be able to locate them without additional resources.

Finally, if a citation index is to be constructed, the citations must be capable of being processed economically. If periodical articles cannot be economically indexed by the traditional intellectual method, then using citations as index entries will be little better as a method, unless they can be handled without the degree of skill normally required of indexers and the length of the time this process requires. In other words the criteria laid down above for the effective utility of indexes apply also to citation indexes. The citations must possess the same characteristics as index entries, namely specific, content-related subject definition and precise location, and they must be capable of being handled economically (the depth of indexing being pre-determined, the degree of intellectual effort is in a sense pre-determined: the citations are the only index entries).

At this point the term "effective utility" may be abandoned in favour of the term "viability." Apart from its convenience the latter term has the value of implying a separate existence for the index. A book may survive despite a bad index or without any index at all, but an index to periodical literature is detached from the periodicals it indexes and must therefore survive in its own environment. Only if it satisfies the terms of the indexing environment can it be viable, i.e. survive and flourish. In formal terms this is expressed in the following proposition:

Only if citations possess specific content-related subject terms and full and accurate bibliographical terms which can be handled economically can a citation index be viable, since viability depends upon the narrow definition of subject and location and upon an economical method of production.

II

EXISTING CITATION INDEXES

The main purpose of the present study is the investigation of citations in the humanities in order to determine their suitability as a basis for citation indexes. However, such an interest would not have arisen without the knowledge of the existence of citation indexes in other fields. While our proposition may therefore be accepted as a logically adequate basis for the investigation, it seems also desirable to test its validity against the statements of critics who have studied existing citation indexes. Although it can be no part of the present study to investigate the viability of these indexes, corroborative evidence may be drawn from analytical studies of them.

A study of the body of critical literature on citation indexes reveals a concensus of opinion that the following three factors underlie their construction:

> citations are present in one form or another in virtually all scholarly writing;
>
> there is a content relationship between citing and cited item;
>
> the formal characteristics of citations enable them to be easily recognized and processed.

The first factor is of course the conditio sine qua non. Without citations there could be no citation index. But it is more than this. Critics stress the desirability of citations and point to their function within the framework of the transmission of knowledge. In reporting on research, it is said, "statements . . . should ideally be supported by a 'reference' to some prior document, conversation, etc." (8, p. 191). It is possible to construct a network of citations that will indicate the relationships between individual items. The CI "furnishes a network of paths which cut across the major highways marked by the (inevitably artificial) boundaries of Classification" (28, p. 714). The network enables the user to assess both the influence _on_ and the influence _of_, i. e. the "impact" of, particular works and to locate items that have been of primary importance in the development of any given topic. "Such an 'impact factor' may be much more indicative than an absolute count of the number of a scientist's publications" (9, p. 109).

The second factor may be designated as the utility factor, since the citation indicates that the work cited has been used by the author. "Everytime an author makes a reference he is in effect indexing that work from his point of view" (9, p. 110). "Each author indexes his own papers each time he cites another paper" (15, p. 652). This point of view is conditioned presumably by the work in hand; "in some respects the bibliography appended to an article specifies uniquely, if indirectly, its subject" (9/22, p. 1213). "When one author cites the work of another, he is associating his subject matter with that of the cited author" (9/21, p. 736). In one of the few studies in which an attempt was made to assess the degree of relevance of citations, the conclusion was reached "that there is a relationship between the subject content of an article and the articles which it cites . . . at least for the field of medicine" (2, p. 261). The citation index therefore depends upon the fact that the content of cited articles is closely related to that of the citing articles. "Relevancy of information obtained through use of citation indexes . . . is generally very high" (21, p. 385).

The third factor may be termed "economic." Citation practices are governed by specific rules and/or unwritten custom. Since the content relationship is assumed to be established by the author, the indexer need read neither the citing nor the cited work, but can construct the index on the basis of largely formal procedures. "Although a great volume of material is to be covered, relatively unskilled persons can perform the necessary coding and filing" (9, p. 111). "One of the charms of a citation index is that it is produced with no intellectual effort, and can be used without any great intellectual effort. Its production and its use are essentially clerical processes. . . . Given the computer programmes (which already exist), the only point at which human intervention is needed is in the input stage. The rest is mechanical" (23, p. 194).

The above considerations are stressed again and again in the not inconsiderable body of material which has now accumulated on the topic of citation indexes. These few quotations may fairly represent the majority opinion. On the other hand it must not be supposed that all those who have examined citation indexing are in favour of it, or that those who favour it are unaware of possible weaknesses. The system is not perfect, but the imperfections are not such as to outweigh to any degree its advantages, while the very existence of citation indexes is likely to induce authors to cite in a form which will facilitate the indexing process. However, it should be noted that one problem which has been discussed and studied in some detail in connection with the sciences is likely to prove much more troublesome in the area of the humanities, namely the reasons why authors cite as they do. While it is true that the generally accepted reason for citing a predecessor's work is to inform the reader as to the sources of the present work and to give credit where credit is due, it is also undeniable that there are other, less appropriate reasons for citing a particular author or work. The desire to please a friend or a superior or to impress the reader with the bulk and breadth of references may lead to a high proportion of irrelevant items (noise), just as personal prejudice may lead to the omission of relevant items. These and many other factors, which have been analysed by Garfield (8), Kaplan (30), and others, are not particularly significant in the sciences where irrelevancies are detectable and likely to produce in the long run a negative effect on the reader. In the humanities, for obvious reasons, the problem will prove less tractable.

The above discussion is based on an analysis of all the critical literature that could be located on the subject of citation indexing and citation indexes. In order briefly to verify relevant conclusions a small body of representative scholarly material was analysed. Since the literature on citation indexes itself was at hand the bibliographies provided by Miller/Truesdell (M/T) and by the article on citation indexing in the Encyclopedia of Library and Information Science (Weinstock) were utilized;[2] 28 items were common to both bibliographies and of these 27 were analysed, one being unavailable at the time of writing.[3]

Counting all first and last pages as full, the 27 items totalled 348 pages or on average between 12 and 13 pages per item. This is close to the average length of scientific articles as given in the critical literature (see, for example, for these and related statistics item 18). The range in length was from 1-86 pages and the median 5. Only two items had no citations; the number of citations varied therefore from a minimum of 0 to a maximum of 44, the average being 12 and the median 10. Of the total of 324 citations 278 were to periodical items and 46 to separate publications of various kinds.

The content relationship between citing and cited items was not verified by reference to all sources quoted, but the following evidence seemed to justify the assumption of content relevance. In the first place the titles cited suggested a very close relationship; only infrequently were titles not quoted. Of the 324 citations, a total of 66 referred to one or other of the 27 items used for the study, thus indicating a high degree of interrelationship. Of the remaining 258 citations, 157 were unique. 24 items were cited twice, 7 three times. 4 four times, 1 five times, and 1 eleven times. It was also noted that in twelve cases of multiple citation the reference was to an article listed either in the M/T bibliography (7) or in the Weinstock bibliography (5) but not in both. In almost all cases the citations appeared in a standardized format and were frequently collected as references at the end of the text; the inclusion of citations in discursive footnotes was rare. It was therefore very easy to identify citations, and the only technical problem encountered arose from occasional incomplete references, for example, to author and journal/page number without any title. In such cases content relevance could only be assumed on the basis of the title of the journal cited. There were a few references to "private communication."

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[2] Elizabeth Miller and Eugenia Truesdell, "Citation Indexing: History and Applications," Drexel Library Quarterly, 8 (April 1972), 159-72; Melvin Weinstock, "Citation Indexes," Encyclopedia of Library and Information Science, (New York: M. Dekker, 1968-), V, 16-40.

[3] The twenty-eighth item was later located and found to contain no citations (28).

The only other statistical information gathered is not essential to the present argument, but it was noted that the average age of items cited in the individual articles varied within narrow limits, namely between 2.5 and 10.3 years (items cited from the same year as the citing article were counted as one year old, from the previous year as two years old, etc.). The average age was five years and the median 4.8, which roughly corresponds to statements contained in critical literature in regard to the lifespan of scholarly scientific literature.[4] Margolis, for example (22, p. 1215), writes, "the average citation rate tends to reach a peak during the 3rd year after publication and to fall off by 50% every 3 to 5 years thereafter." An outline of the data collected is given in appendix 3.

Although this brief analysis can by no means be regarded as a definitive study, the information gathered corroborated the findings of the authors of articles on the form and function of citations and the structure of citation indexes.

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[4] It should be noted, however, that references to much older works could hardly be expected for such a "new" topic. For further discussion of the age problem, see the excursus (p. 77).

III

CITATIONS IN THE HUMANITIES - THE SCOPE OF THE PRESENT STUDY

Since it is the purpose of this study to examine the possibility of creating viable indexes on the basis of citations in the humanities, it had first to be established that the nature of indexes is such that citations may, if formulated in a certain manner, be used to construct such indexes. It was further noted that citations in the sciences appear to be so formulated and that this presumably explains the existence of what are generally accepted as viable indexes *in those fields*. "Whether or not citation indexes are useful is a question that has now been answered. We have enough favorable experience in using them to know they are desirable and useful" (15, p. 649).

In considering the question of the applicability of citation indexing to scholarly literature in the humanities, the *usefulness* rather than the *desirability* of such indexes is to be examined for the following reasons. It is self-evident that the scholar in the humanities needs information, specific and detailed information, about recent research in his field. It is also evident that the growing quantity of available material and the increasing degree of specialization have rendered the traditional forms of index obsolescent, if not obsolete. The *PMLA* bibliography, for example, divides English literature into twentieth century, nineteenth century, eighteenth century, etc. All literary figures are listed in alphabetical order-within the time period, and all items are listed alphabetically by the author under the main topic, i.e. Keats, Tennyson, and so forth (with minimal cross-references). With the exception of Shakespeare (sub-divided by plays) there is no subject order and no index other than of the authors of items listed. A user must therefore read, for example, through 101 items on Hawthorne or 129 on Milton (1971) in the hope of finding something that looks relevant. What form of indexing is desirable under present conditions, whether improved traditional or entirely new forms, cannot be debated here. On the other hand it cannot possibly be argued that existing bibliographies are all that is desired, i.e. so perfect as to render any other form superfluous. This study therefore proceeds from the standpoint that only what is useful can be desirable. Until it has been determined whether or not citation indexes might be useful in the humanities or to what extent they might be useful, there seems little point in considering whether or not they are desirable.

To judge by the results of analyses of citation habits among authors in various scientific fields, it would seem that a large measure of agreement exists as to the need for citing and the method of formulating citations. Such a community of opinion establishes a sound basis for citation indexes in the sciences. There is no reason to assume, however, that in the humanities any such general agreement obtains, either as to the need for citing or as to the form in which citations should appear. It is in fact evident from even a brief survey of scholarly literature in the humanities that there is a very wide divergence of opinion and practice in this area, a divergence that is only in part the result of different forms of publication or of the special requirements of the various fields. It would therefore seem desirable to obtain evidence of citation practices from as representative a sample of scholarly writing in the humanities as possible.

Fortunately, or unfortunately, the number of disciplines contained within the ill-defined boundaries of the humanities is far too large to permit a representative cross-section to be treated within the scope of this study. It was therefore decided to limit the investigation to critical writing in the field of language and literature, primarily to literary criticism. The reasons for this limitation are entirely pragmatic. Literary criticism is one of the largest and most familiar areas of the humanities; and it is an area in which the author has some experience, a factor of some weight in view of the need to make judgments as to content relevance in citations. Furthermore, while the results obtained may not be generalizable for all humanities' disciplines, the area of literary criticism may be considered representative to the extent that it deals primarily with the perceptible (written) and performable products of the human mind and thus has a scholarly kinship to such fields as art and music.

Since the field of language and literature represents, as indicated above, a not inconsiderable part of the whole area of the humanities, a further limitation became necessary. The International Bibliography of the Modern Language Association of America, for example, lists items from approximately 2,000 serials,[5] covering more than a score of languages, and it is evident that--quite apart from the linguistic problems involved--it would not be possible to handle the volume of material necessary to make a representative selection of journals in even the major languages. Since existing citation indexes cover almost exclusively English language periodicals, the area to be studied was therefore limited to journals published in the major English-speaking countries even though these may contain items in languages other than English.

The actual selection of journals within the limitations proposed still presented problems in that there are wide differences not only in the fields covered, but also in the intellectual level, the style, etc. Some journals contain exclusively scholarly material, others more popular material, still others a mixture of all levels. Editorial principles also vary very widely, so that some journals include copious and detailed documentation, often in a prescribed form, while in others a deliberate attempt is made to eliminate notes entirely and/or include documentation in the text. Given the limited scope of this study and the necessity of analysing at least several issues of any journal selected, it was evident that a sample (random or otherwise) could not be taken; the number of journals required for such a sampling would be far too large. The only alternative was to make a conscious selection on grounds relevant to this study and to bear the limited selection in mind in interpreting the results.

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[5] In 1969 almost 2,000 abbreviations were listed. These included some collected works, but since then the number of periodicals has increased steadily. Beginning with 1970 the bibliography has been divided into separate volumes for English and Foreign Languages.

Although the citation habits of individuals and the editorial precepts of journals vary widely, there are nevertheless certain well known handbooks on the composition of scholarly work, and these deal at length with the question of the function and form of (footnote) citations. Just as each press has its own house-style, so most journals have a stated or implicit policy about the use and especially about the form of citations. Undoubtedly the most influential journal in the field in this respect is PMLA (Publications of the Modern Language Association [of America]) which includes in its statement of editorial policy the following: "PMLA . . . urges authors . . . to strive to communicate the broader implications as well as the precise substance of their research . . . with documentation held to a minimum."[6] PMLA has sold huge quantities of its Style Sheet (over one million copies of the first edition), the principles of which are adhered to, at least nominally, by many other journals, by presses, and by graduate schools (in respect of theses). The citation practices of such a journal as PMLA may therefore be considered exemplary. Its policy is normative. This does not of course mean that all footnotes to articles in PMLA have the same kind of content or even the same form. What is important is the insistence first on documentation and secondly on full, accurate, and consistently formulated documentation within the limits of guidelines which allow for "stylistic" variations. It therefore seemed reasonable to take as a sample a journal or journals (within the limitations laid down above), representative to the extent that their citation practices are accepted as models by other journals.[7]

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[6] Experience indicates that this is a precept more honour'd in the breach than the observance. If, on the other hand, it were observed, then one would be justified in assuming (at least at the outset) that the minimum of documentation would include the most relevant documents.

Using such journals means of course that the results obtained will not be generalizable. On the other hand, since these journals are "exemplary," the results should represent a maximum level of viability under present circumstances. If widely known and emulated citation practices cannot lead to citation indexes, then it is virtually inconceivable that the varying practices of lesser known journals that are not imitated can do so. If on the other hand it is demonstrated that the citation practices of these journals can or could serve as a basis for citation indexes, then the results could be generalized to the extent that one could say: citation indexes are possible in the humanities if based on journals that adhere to the citation policies established by such leading journals as. . . .

The journals selected are the following:

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[7] In Canada, for example, the use of the MLA Style Sheet is required by such journals as the Humanities Association Review, The International Fiction Review, Seminar, Canadian Review of Comparative Literature, etc.

PMLA: Publications of the Modern Language Association (of America)

MLR: Modern Language Review (Modern Humanities Research Association [UK])

AUMLA: (Australasian Universities Modern Language Association)

These journals were chosen for the following reasons. The first two, PMLA and MLR, both adhere to the practices of published style sheets as indicated above.[8] They are also among the most highly respected and widely disseminated journals in the field; their circulation figures are, respectively, 32,270 (1971) and 2,600 (1973).[9] The reputation of these journals attracts contributions from leading scholars around the world and there is thus both a considerable diversity in style and a wide variety of subject matter. The articles are all related in one way or another to language (rarely linguistics) and literature (with a natural emphasis on English), but include items of a biographical, historical, bibliographical nature, etc., or even items on matters of "professional" concern. They are therefore both broadly representative and broadly influential.

In addition to PMLA, which is most influential in the USA, and

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[8] The MLA Style Sheet, second edition (1970); MHRA Style Book: Notes for Authors and Editors (Modern Humanities Research Association, 1971).

[9] Sources: PMLA, 88 (1973), 660 ["Facts of Scholarly Publishing"]; personal communication from R. Wisbey, Secretary-Treasurer of the MHRA.

MLR, which holds approximately the same position in the UK, a third journal was included, which is influential in the next largest English language area, namely Australasia. It cannot be said that this journal has anything like the degree of influence of the other two, given the limited area of its circulation base. However, it seemed worth including in part precisely because it represents the *non-prescriptive* type of journal; that is to say, there appear to be no consistently applied editorial principles in regard to documentation. The variety of material is matched in fact by the diversity of documentation procedures. In a sense, therefore, this journal serves as a foil to the other two. Not all items were analysed, however, since, despite its title, it contains also articles on classical studies, etc.; these were omitted.[10]

Because citation practices may vary with time, only recent issues of these journals were used. For practical purposes the period was limited to the last three full years (1971-73). This supplied a sufficient quantity of material without any likelihood of significant changes in practice within the period. It would perhaps be fruitful, but beyond the scope of this project, to examine changes in citation practices over the last twenty or thirty years in order to establish whether or not there already exists a trend toward forms which would be more (or less) appropriate to citation indexing.

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[10] The title was retained when the sponsoring organization changed from the Australasian Universities' Modern Language Association to the Australasian Universities' Language and Literature Association.

IV

DEFINITIONS AND PROCEDURES

To obtain some indication of the kind of problems presented by citations in the humanities, a brief preliminary study similar to that carried out on the literature of citation indexing was made of a number of items on Goethe's Faust II. The details of this analysis cannot be reported here, but a brief summary of the statistics obtained is included in appendix 3. The data from the two analyses were compared and used as a basis for establishing a preliminary data sheet; this data sheet was then refined after an initial examination of several items from the data base described in the previous chapter. The final form of the data sheet reflects the need to gather all possible data relevant to the variables contained in the proposition (p. 16), in particular to the concept of viability.

Although the constituent factors of the term viability in relation to indexes have been defined, the actual standards by which viability or non-viability is determined will vary almost infinitely. The term viable implies after all only the capacity to remain alive; the quality of life may vary from mere existence to luxuriant growth and development. In our case the variable factors are (a) the proportion of "good" and "bad" citations; and (b) the cost of manipulating the citations to produce index entries. The words "good" and "bad in this context are simple adjectives to denote citations that do or do not measure up to the conditions laid down in the proposition; these may also be termed complete and incomplete, relevant and non-relevant, etc. It would clearly be absurd to argue, for example, that the presence of even only one bad citation would render an index non-viable. The question arises instead as to the acceptable proportions of good and bad citations. Equally, there is no such thing as absolute economy. The production of an index must cost something, and the cost which is considered tolerable will vary depending upon the financial circumstances of the producer and possibly also of the user. What must be determined is therefore not merely the presence of specific factors essential to viability, but the level of their presence which constitutes viability.

For the purpose of this study no estimate can be made of cost in terms of financial outlay. Economy--the term used earlier--will be defined instead as the possibility of producing an index without reference to the body of the text; based solely on the footnotes, references, etc., appended to the articles, and by using clerical staff without subject knowledge in the area surveyed. Given this method of obtaining the index entries, citations may be divided into two broad classes irrespective of their content, namely retrieved (good) and non-retrieved (bad). Within each of these two classes there are only two sub-classes, namely those that are good or bad in quality, that is to say "specific content-related items" and others. These may be called, for the sake of brevity, relevant and non-relevant items. There are therefore four sub-sets:

retrieved and relevant	non-retrieved and relevant
retrieved and non-relevant	non-retrieved and non-relevant

Viability depends not only on the proportion of material retrieved, and retrieved economically, but also on the relative proportions of relevant and non-relevant items within the retrieved/non-retrieved groups, since there would clearly be little value in a high retrieval rate if the retrieved material were to contain a very high proportion of irrelevant matter. In the literature on information retrieval systems this is a point frequently discussed, and it has been suggested that there are actually six factors which pertain to the level of effective retrieval.[11] Although the situation is somewhat different in information retrieval systems, where a limited number of relevant documents is assumed to exist within any given universe of documents, the same terminology may conveniently be used. In citation indexing, for example, a citation which is recorded may be considered as being retrieved, although, unlike a document, it may possibly be only partially (i.e. incompletely) retrieved. The six factors involved are the following

1) $\dfrac{\text{items retrieved}}{\text{total items}} \quad = \quad \text{resolution factor}$

2) $\dfrac{\text{items not retrieved}}{\text{total items}} \quad = \quad \text{elimination factor}$

3) $\dfrac{\text{relevant items retrieved}}{\text{total retrieved}} \quad = \quad \text{pertinency factor}$

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[11] The following is based in part on J. W. Perry and A. Kent, *Documentation and Information Retrieval* (Western Reserve University Press, 1957); J. Becker and R. M. Hayes, *Information Storage and Retrieval: Tools, Elements, Theories* (New York: John Wiley, 1963); B. C. Vickery, *Information Systems* (London: Butterworths, 1973).

4) $$\frac{\text{non-relevant items retrieved}}{\text{total retrieved}} = \text{noise factor}$$

5) $$\frac{\text{relevant items retrieved}}{\text{total relevant items}} = \text{recall factor}$$

6) $$\frac{\text{relevant items not retrieved}}{\text{total relevant items}} = \text{omission factor}$$

While these may be all the possible factors on which to base an abstract evaluation of any given system, they do not help in determining the acceptability of the factors when they have been statistically determined. To take a very simple example, a pertinency factor of 50% might be acceptable in one field, but a pertinency factor of less than 100% could be disastrous in another. And if an acceptable pertinency rate of 50% were to mean 10 relevant out of a total of only 20 retrieved items, the same pertinency rate might not be acceptable if the retrieved items ran into thousands. Any attempt to establish figures for these factors must in other words be based upon the specific situation of the individual and his demands on the system. Relevance (for him) is the "measure of the utility of a document with reference to a question. . . ."[12]

Bearing in mind, therefore, on the one hand both the nature of the citation index (which allows for multiple re-entry--cycling--through the re-use of items retrieved) and the nature of the information retrieved (author/title/location) and on the other the volume of material involved, a priori limitations must be established for those factors which are most significant in the field under consideration. The resolution factor should of course be 1 (100%) in view of the method of indexing; anything substantially below this would indicate that citations cannot be used to create citation indexes in the field. On the other hand, since the absolute volume of citations in the humanities is not great, relatively low pertinency and high noise factors are acceptable. On the basis of personal experience only the pertinency factor will be set arbitrarily at 60% (.6) and the recall factor likewise at 60%. (Since each pair of factors represents an obverse/reverse ratio, reference need only be made to one factor of each pair, e.g. a pertinency factor of 60% implies a noise factor of 40%, a ratio of 60:40.) That is to say, at least 60% of all citations retrieved should be relevant and these should also constitute not less than 60% of the total of all relevant citations.

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[12] Tefko Saracevic in "The Concept of 'Relevance' in Information Science: A Historical Review," Introduction to Information Science, compiled and edited by Tefko Saracevic (New York: Bowker, 1970), 111-51.

The other major element which has to be defined, and the definition of which is an essential precondition for the data gathering process, is relevance, the term used to designate a close content relationship between cited and citing items (content in this context meaning, as always, not the general topic that is treated, e.g. not Shakespeare or Milton, but the particular argument that is being made). Relevance is also a term that defies precise definition, and it is not possible--or perhaps more accurately, it is neither feasible nor desirable--to class citations under normal circumstances as absolutely relevant or irrelevant. On the other hand citations must be so designated in this study in order to provide the statistics on which the recall and relevancy ratios, etc. may be calculated. Consequently, although relevance is ipso facto a subjective term, it is necessary to find some basis from which citations may be consistently, albeit subjectively, adjudged to be relevant or not; a cutoff point, so to speak, above which citations are (more or less) relevant and below which they are (more or less) irrelevant. The statistical evidence will subsequently show, of course, whether or not the two classes are so disproportionate as to suggest the advisability of moving the cutoff point up or down.

The analysis of the Faust II material and of some items from the main body of data for the present study made it clear that citations in the humanities differ considerably from those in the sciences, both in form and in content. Whereas the citations in scientific articles appeared to relate exclusively to the specific argument being made, in the humanities they were not necessarily related directly and specifically to the content of the citing article. A survey of numerous articles led to the establishment of the following categories of citations:

1 Editions of the work (or works) under discussion and of similar primary materials.

2 Critical works which treat the topic under discussion in the citing article and are thus directly related in content, though in varying degrees of intensity. In some cases these citations may be negative, i.e. may refer to articles on the same topic that are rejected by the author.

3 Reference works used to support the arguments, to provide definitions, historical or biographical background, and so forth.

4 Peripheral materials, including critical work which has a bearing on the broader background to the subject rather than on the particular topic of discussion, or relates the study to similar studies on other topics, in other fields, etc; also sources of "decorative" quotations and other references not pertinent to the issue.

These are, of course, broad categories and not necessarily rigidly or mutually exclusive ones. Preliminary experience indicated, however, that the vast majority of works cited could be assigned to one of these categories without hesitation. From the point of view of citation indexing only the second category, namely "criticism," contains "relevant" material. Editions and reference materials are sources which do not contain the results of research about the topic discussed. There might be some justification for considering the former as critical works inasmuch as reference was not infrequently made to the introductions, commentaries, notes, etc., of editions, that is to say, editions were not always cited as, or cited solely as, primary source materials. It would, however, be uneconomical to attempt to distinguish textual from critical references. In some cases, for example, it was not clear whether the subsequent references were to the text or to the commentary, while in others the edition was cited at the beginning of an article and reference subsequently made both to the text and to the critical commentary. Since the indexer cannot be expected to refer to the text of the article and the number of textual references in any case exceeded by far other reasons for citing editions, these were not included as relevant.

A kind of content relationship is also involved in the case of "reference" sources. Just as the edition must be cited to enable the reader to trace the quotations, so too the argument must be buttressed by reference to standard authorities in the field, whether it be on a question of semantics, a theological point, or the use of freudian terminology. Collectively these citations may give an adequate indication of the direction that the research has taken in the citing article, but individually, as they will appear in the index, these items do not provide the user with the kind of information he seeks, since they refer not to critical work which may have influenced the citing article, but to non-critical sources of primary or corroborative secondary material.

The preceding discussion is the justification for designating specific kinds of works as relevant or non-relevant. It must not be forgotten, however, that an essential factor in the economy of citation indexes is the expectation that they will be compiled by non-expert, clerical staff. It would therefore have been logical to employ such a non-expert to do the gathering of data for this study. Such a person would be trained to recognize citations solely on the basis of formal principles, such as the use of italics, brackets, and various forms of punctuation--principles which are adhered to with some consistency by almost all journals.[13] He/she would be expected to record all identifiable citations, but would not be expected to determine either the accuracy of the citation elements or the relevance of the item cited. If such a procedure had been followed, a parallel analysis by a subject expert would have been necessary against which to measure the non-expert's results. It was considered more practical, therefore, to extract all the citations from the whole material--just as the non-expert would do it--but to analyse the data in such a way that the limitations of the method would be assessable. However, before the actual data-gathering process is described, the reasons for the limitations imposed on the non-expert clerical worker (indexer) must be considered.

If "one of the charms of a citation index is that it is produced with no intellectual effort" then it must be assumed that the indexer will not have any subject knowledge of the field(s) in which the article(s) is/are written, will not in fact read the text at all. If only the notes and references are read, then it is obvious that in the first place all invisible citations will go unrecorded. These are of three kinds and may be designated as casual, deliberate, and oblique.

In the first case the author is making a passing and usually incomplete reference to a work which is not considered significant enough to be recorded in full. Such references are frequently either to other fields where similar points arise or to the source of an apt quotation which is not in itself relevant to the topic discussed. In either case full details of the source are probably not necessary and footnote references would only swell the number of irrelevant items. Compare the following examples: "The manuscript--Carew 596 at Lambeth Palace--is held to be . . ." (*MLR*, 68 [1973], 283); "In courtly literature the hunt also stood for. . . . Such is the case in Marie de France's *Guigemar*, Jean Renart's *Guillaume de Dole*, and the *Ovid moralisé*" (*MLR*, 66 [1971], 295); "At this late date the plagiarism charges--the most notorious of which was advanced in an anonymous London *Foreign Quarterly Review* article in 1844, bandied about in the course of Poe's savage journalistic duels with Lewis Gaylord Clark, and firmly rejected by Poe in letters to James Russell Lowell--seem . . ." (*PMLA*, 88 [1973], 418); "One is reminded of a sentence by Dr. Leavis in his *Revaluation*: 'Seriousness for Pope . . .'" (*PMLA*, 86 [1971], 227).

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[13] It was not felt necessary to give details of these formal procedures. Sufficient examples are to be found in the notes and appendices to this paper.

At the other extreme the inclusion of full bibliographical details in the text at the point where a particular work is first mentioned is a stylistic principle which is adhered to by some few authors. It is not a common practice but occurs both in *PMLA* and *MLR* in such a form as the following: ". . . une Mme Bovary du dix-huitième siècle: Henri Guillemin la dit 'un peu rance' (Intro. à *Benjamin Constant muscadin*, Paris: Gallimard, 1958, p. 12)" (*PMLA*, 87 [1972], 492).

Thirdly authors do not always cite at first-hand, but may derive their information or quotations from "secondary" sources. It is true that such a practice is frowned upon, but it occurs quite frequently, at times even necessarily. A reference to the cited source may therefore be misleading, while any attempt to list the "intended source" may be equally misleading (because incomplete) or even impossible. A footnote such as the following, "Quoted by P. N. Furbank, op. cit., p. 105" (AUMLA, 40 [1973], 239) can lead at most to the listing of Furbank's work.[14] Recourse to the text reveals that the quotation is by Svevo (no Christian name) whose work is discussed in some detail. See also the example in note 3 of appendix 2.

It should not be imagined, however, that relieving the indexer of all responsibility for appreciating the value of the citations noted, means that no mental effort is required of him/her when "merely" scanning notes for citations. Scholars in the humanities do not simply cite references, they write notes which may or may not contain references. These notes must be read carefully, whether they are brief to the point of crypticism or as long or longer than the whole text itself. Notes of ten or twenty lines in length are found frequently; the maximum appears to be in the neighbourhood of fifty lines. One article examined for this study contained 754 lines of text (including quotations) and 748 lines of notes (in smaller type), with an average of 10.5 lines per note. While an indexer may be able to develop an ability to comprehend the details of the notes without recourse to the text, such comprehension presupposes a reasonable degree of intelligence and particularly of experience with technical terms and forms. This experience, based on the kind of training referred to above (p. 39), would be directed, however, solely toward recognition for the purpose of retrieval, not toward elucidation.

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[14] Not in this case, however, since no work by Furbank is cited in the preceding notes. This is a good example of the kind of confusion to be found in notes in this journal.

The recognition of citations is itself made difficult by the frequent separation of the bibliographical elements of a citation, a separation which may only be within a footnote, but may also extend across many footnotes, as when an essay is cited from a volume of collected essays to which reference has earlier been made in connection with a different essay. Compare the following examples: "In his article 'Thomas Mann's Early Interest in Myth and Erwin Rohde's Psyche,' PMLA, 79 (1964), 297-304, Herbert Lehnert has shown how intimately familiar Thomas Mann was with the work of the great Nietzsche friend and mythographer Erwin Rohde, and how thoroughly he had mined it for Der Tod in Venedig. Of course, Rohde speaks extensively of the myth of Dionysos Zagreus. I had at my disposal only the abbreviated version of Rohde's book (Kröner edition, Stuttgart), but even there the Dionysos Zagreus story is told in detail (pp. 182-83 and 288)" (PMLA, 86 [1971], 938). Here the Lehnert citation is simple, but the Rohde citation must be reconstructed from details spread over several lines. "AAM" in the following footnote, "See Paul Wyser, O.P., 'Taulers Terminologie vom Seelengrund,' AAM, pp. 324-52" (MLR, 66 [1971], 616), is explained eight pages earlier as follows: "See Herbert Grundmann . . . ; reprinted in Altdeutsche und altniederländische Mystik [AAM], edited by Kurt Ruh (Darmstadt, 1964), p. 83." In the following example no title is given for one (or two?) of the essays cited although the source is given and the title of a third item quoted: "In The Meaning of Courtly Love, edited by F. X. Newman (Albany, New York, 1968) two contributors, D. W. Robertson, Jr. and J. F. Benton, agree that the term 'courtly love' is an impediment and express doubts as to its reality. C. S. Singleton, however, in his 'Dante: Within Courtly Love and Beyond', The Meaning of Courtly Love, pp. 43-54, stresses both 'the social reality of this cult of courtly love in Florence', and its playful context" (MLR, 66 [1971], 249).

The expectation that the indexer would reconstruct "dismembered" citations does not, then, imply that he/she would make any decisions as to the acceptability or otherwise of any given citation, not even, for example, in the case of negative citations--which are in any case not always readily recognizable as such. The refutation of earlier theories is a commonplace in scholarly literature and it takes place primarily in the text of the article. The footnote citation to the rejected item does not, therefore, necessarily give any clues as to the attitude of the citing author, i.e. whether he considers the work he has cited as totally or only partially unacceptable. Negative citations vary in fact from the simple "non-reference" through equivocal comments to the downright negative. Consider the following examples. "No separate analysis of Dancourt's regency plays is furnished by . . ." (PMLA, 86 [1971], 99); "Bardèche, in his chapter on Les Chouans . . . discusses 'la distance des événements', but--curiously--makes no mention in this connexion of the possible influence of Scott" (MLR, 68 [1973], 54); "Hans Bänziger's essay [reference] in attempting to bridge the gap between literary and scientific studies, has interesting things to say on the well-known concept of animal territorialism. However . . . its applicability seems minimal" (PMLA, 87 [1972], 166). Where the author has felt it necessary to make an explicit refutation, this in itself is an indication of a content relationship, one that is likely to have had some degree of influence. If one adds to this the consideration that the user may either wish to see all critical opinions on a given topic or even be looking specifically for adverse criticism, then it is more than clear that an indexer should not make any decision based on apparent non-relevance.

For similar reasons the indexer cannot be expected to select an item where there is apparent superfluity or duplication. If the several editions of a work are cited, or if the existence of a re-printing is noted in a citation, this may be handled relatively easily. Much more troublesome are the increasingly frequent examples of re-publication. These citations are basically of two kinds: either the writer refers to the later publication and indicates that "this originally appeared as . . ." or he cites the earlier version and adds that "it was later re-published as resp. in. . . ." These types of citation raise two problems. In the first place it is not always clear whether the two versions are different, and secondly it is often not clear in exactly what form (i.e., title, page numbers, etc) the "other" version appeared. Often one or other of the versions lacks certain bibliographical details, presumably because the writer is expecting the reader to use the one he has cited fully. If, on the other hand, all details are available and the two items are listed separately, they may give the appearance of two different items even though they are essentially one and the same. Typical examples are the following: "See Hymes, 'Phonological Aspects of Style: Some English Sonnets,' in Essays, ed. Chatman and Levin, pp. 35-54, rpt. from Style in Language, ed. Thomas Sebeok (Cambridge, Mass.: Technology Press of M.I.T., 1960)"; "'The Two Great Sexes in Paradise Lost,' SEL, 2 (1962), 1-26. Rpt. in The Muse's Method (Cambridge, Mass.: Harvard University Press, 1962)" (PMLA, 88 [1973], 18, 78).

The citing of "reference" materials, not only to identify the source of quotation but also to corroborate "facts," e.g., establish dates, define terms, and so forth, is a necessity in much of humanistic scholarship. However, the range of material cited and the varied uses to which it is put make it virtually impossible for anyone not thoroughly conversant with the field to recognize immediately the purpose of the citation. An historical document may be a reference source in one context and "criticism" in another. A writer may be cited as an object of research (edition) or as a critic. Even a lowly dictionary may be cited in a linguistic context as a critical work rather than as a reference work. Since much the same may be said of both "reference" works and "editions" (above, p. 37f.), it is evident that subject knowledge would be an essential prerequisite also for the purpose of assigning works to any given category, no matter how accurate and straightforward the form of the citation may be, and that this too can therefore not be undertaken by indexers.

The discussion of "reference" works, "editions," etc. raises the question of whether or not to include in any HCI monographs in addition to articles and, if so, how. Existing citation indexes are based on periodical literature, and almost all references in the periodicals used are to articles, not to books. It was evident from the preliminary survey of humanities' literature that a considerable proportion of citations, more than half in fact, were to monographs. The problem here lies in determining the degree of content relationship that can subsist between a presumably narrowly specific essay of ten pages or so and a substantial monograph of perhaps hundreds of pages. Obviously, there must be cases where a close content relationship is present, just as there are articles that are greater in length than some books. But, on the other hand, it is clearly likely that a cited monograph will be less specific than the citing article and that the content relationship between citing and cited work will not be close, unless a specific portion of the monograph is cited.

It must therefore be assumed that the nature of published work in the humanities requires the inclusion of monographs in a citation index. However, it will be essential to include, wherever possible, the specific portion of the monograph cited (chapter, page numbers, etc), and to make separate entries for citations to different parts of the same monograph. While this may seem an unnecessary complication, it must be borne in mind that a user is unlikely to gain much from monograph titles, if he/she is searching under a known author's name. Book titles are frequently too vague or misleading, e.g. Some British Romantics, Clashing Myths in German Literature,[15] and a user is only likely to enter the index as a result of interest in a particular portion of a known book or because a passage from the book is cited in a known article. Also, although a user might profitably use a particular page or chapter in a book, the use of the book as a whole in the process of cycling would almost certainly prove unsatisfactory, since it would lead not only to items that had cited the whole book, but also to those that had cited other parts than that one for which the work was cited in the original source.

No distinction should therefore be made in the indexing process between articles and books: both should be recorded with page numbers. However, since the page numbers cited from a book are not an essential part of the bibliographic (i.e. locational) information, the absence of page numbers cannot be considered an omission from this point of view. On the other hand, the possibility, or even probability, that a monograph cited as a whole is less specific than the article in which it is cited, cannot be discounted, and this question will therefore be raised again briefly after the statistical information has been presented.

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[15] Not infrequently an author feels compelled to explain his title in a lengthy and consequently cumbersome sub-title, something which becomes a considerable problem when computers are used which are programmed to cut off anything beyond a prescribed number of letters.

In addition to the restrictions imposed upon the indexer by virtue of his/her lack of subject expertise, there are some other points which should be raised briefly in connection with the strictly mechanical process of registering citations. In the first place, inevitably, there are errors in the footnotes which may cause confusion. An indexer might possibly recognize an error if a misprint rendered a word unintelligible, but it could be no part of his/her task to accept responsibility for the recognition and elimination of errors such as incorrect dates or volume numbers. More importantly there are numerous examples of incomplete citations where it might be considered as part of the function of an indexer to complete them. Frequently, for example, the bibliographic information is split between the footnote and the text. However, locating the appropriate footnote is time-consuming, and is useful only if a) it is evident from the note that something is lacking and b) the information is retrievable from the body of the article without reading the text. These conditions will not often be encountered. It is quite common, for example, for a critic's name (and work) to be introduced and commented upon before it is actually quoted and the reference given in a footnote. In such cases it is necessary to read back through the text to locate the author of the quotation (and/or work).

Many incomplete citations might also be viewed as "split" when they lack the name of the author of the work cited in cases where the authorship is considered by the writer to be self-evident either from familiarity or because this author is the topic of discussion. It is in fact not unusual to find an article, the title of which provides no clue for the uninitiated as to the identity of the author whose work is under discussion. It may even be some time before his name is mentioned. In an article entitled "A Reinterpretation of The Mill on the Floss," for example, the author's name is introduced after two to three hundred words in the following rather oblique manner: "One of the most serious and obvious errors in this reading is the misunderstanding of George Eliot's attitude toward the philosophy of Thomas à Kempis, with which Maggie becomes acquainted in Book IV" (PMLA, 87 [1972], 53). Footnote references to "other works" by the (unnamed) same author are therefore not recognized by the non-expert.

Similar problems occur with anonymous texts, where anonymity is rarely specified, and with titles which include the name of the author. An indexer trained to recognize book titles by the use of italics, for example, might not be able to extract the author's name from a title such as Letters of X or The Diary of X, where X is the author--or he might extract a fictitious author! This problem is most likely to occur with foreign language titles, particularly Latin titles where the author's name is often included in the genitive form as part of the title.

Finally, one very important factor must be mentioned which will affect to a considerable degree the indexer's ability to recognize citations, namely the use of foreign languages. Two separate problems are involved here: the recognition of foreign language works cited in articles in English and the recognition of citations in articles written in a foreign language. In an English language context citations in a foreign language should be in the same form as those in English and thus be readily recognizable in most cases. Articles written in a foreign language present a greater problem, since, even though knowledge of a foreign language may reasonably be expected of an indexer, the citation forms in the foreign language may be different and/or inconsistent. However, while the use of foreign languages must be recognized as an inhibiting factor in the indexing process, any further discussion must be left until the extent to which foreign language materials are present has been ascertained.

The preceding are the major factors which impose limitations on the indexer's work and which justify requiring of him the mechanical registration of all citations, using predetermined, formal qualifications. It must be stressed, however, that we are laying down what should be done, not how (technically) it should be done, for it can be no part of this study to consider the possible application or relative merits of card-sorting machines, computers, and the like. Nor can we consider here the various possible forms in which the citation index might eventually be published.[16] Since we are concerned solely with the efficacy of citations as index entries, we shall assume that the potential user will approach the index with a known item, with sources cited in a known item, or at least with a known author in mind.

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[16] Irrespective of the method of production there would be numerous "management" problems, for example, the problem of standardizing the varying abbreviations and/or transliteration systems between languages.

On the other hand, since it is important to know not merely what an indexer would record, but what form this record would take, a similar categorization to that proposed for "relevance" is desirable also for the bibliographical information which is supposed to enable the cited item to be located. The reasons for such a categorization are purely practical. In the first place the bibliographic location does have a bearing on the content relationship inasmuch as the type of publication, number of pages, etc., may be indicative of a broader or narrower content relationship. More important, however, since it is necessary to know which citations cannot be "retrieved" by the indexer, which are partially retrievable, and which might be retrieved under given special circumstances, are such issues as the location and accuracy of the citation and the language of the item cited. The categories listed below therefore reflect this interest, although one category had to be omitted from the data gathering process, namely "invisible" citations, i.e. those that appear only in the text and are not referred to at all in footnotes or references. While these invisible citations are not included in this study, a cursory assessment of the extent to which they exist was made by examining the text of a limited number of articles.

The final form of the data sheet that was designed on the basis of the preliminary studies and theoretical considerations is as follows:

journal	date	topic	language	pages	notes	citations	comments

FORM						CONTENT				
ref. no.	publ type	date	comp. inc. split	page no.s	lang.	edition etc.	criticism	reference	peripheral	neg.ref.

Certain procedures were followed in recording the citations for this study. The topic of the article is recorded only by language and field, e.g., English/literature; language refers to the language of the article, not of the topic. The number of pages includes all footnotes, endnotes and other related material; incomplete pages are counted as .5.

The reference number is the number assigned to the citation irrespective of footnote numbering. The type of publication includes books, articles, dissertations, and so forth. Essays from individual volumes (such as festschriften) are listed as books, since the emphasis is primarily on the bibliographic form involved. Where reference is made to unpublished, archival materials these are listed as MSS, but only one citation is recorded for each source of MSS, not one for each MS cited. Letters to the author of the article are also listed as MS; only a verbal communication is listed as "personal."

Where more than one date is given for a single item, e.g. 1960, repr. 1970, the more/most recent date is cited. The same applies to works published over a number of years. If, however, the work appears in two forms, e.g. as an article subsequently reprinted in a volume of essays, then these are treated as separate items. In calculating the age of any work the date given is subtracted from the date of the citing publication plus one. For example, a work dated 1970 and cited in 1972 would have an age of 3. The problem of age is discussed only in the excursus (p. 77).

Incomplete citations are those lacking any significant portion of the bibliographical information, e.g. author, title, date of publication, volume (in the case of periodicals). Lack of the place of publication of a book was not considered serious enough to warrant registering an item as incomplete. However, in those very few cases where periodical items lacked page numbers (usually reviews) the citation was considered to be incomplete on the grounds that a user might well search the index using the name of an author known to have written on the topic. The absence of page numbers could result in difficulty or delay in locating the item, and would, moreover, prevent any assessment of its extent. When the only information lacking in the note is included in the text at the point where the work is cited, then the citation is listed as split.

Page numbers are noted (wherever possible) inclusively; only where more than five separate page references were made to a single item are these omitted although the presence of page references is noted. In cases where inclusive page numbers were quoted and an additional reference, such as: "especially p. 5," made, only the inclusive paging is noted. References such as passim are also noted and a complete absence of page references is indicated by 0. In calculating the average number of pages per citation imprecise references such as those to chapters, lff, passim, etc. were ignored.

The language noted is that used in the title of the work; thus an American edition entitled Three Plays by Garcia Lorca is considered as English whether the plays are printed in the original or in translation. When a translated edition, reference source, etc., is cited, the source language is noted in the edition column (if known), e.g. < G.

The decision as to whether or not a given work was to be considered as criticism and therefore "relevant" had to be based upon knowledge of the material under discussion (primarily the citing article), the title of the work cited, its place of publication, and so forth. Evidently this is the area in which the analysis is most open to the criticism that such judgments are subjective rather than objective; it can only be said that this part of the work was done after lengthy consideration of numerous examples and that every effort was made to maintain a consistent level of objective assessment. The various categories of content relationship have already been discussed. It should be added, however, that it was thought useful to attempt an assessment of the proportion of negative citations by the addition of a separate column for such references. Although this record was kept, it did not prove to be useful for the reasons indicated above (p. 44). Negative citations are therefore included in the data analysis within the figures for "criticism."

The procedure followed in evaluating the citations was as follows. The abstract (where available) was read and the article briefly scanned for content. The footnote numbers were clearly marked in the text to enable them to be easily located later. Each note was then perused for citations and the details noted on the data sheet while reference was made to the body of the text to aid in the assessment of the relevance of the citation and to ascertain whether or not additional bibliographical details were to be found there. Only casual allusions were ignored. Occasionally it was necessary to have recourse to reference works or to ask for assistance in elucidating (usually Russian or Spanish) titles.

After completing the details for each sheet the separate totals for each item were noted at the foot of the appropriate column. To the total of criticism citations was appended a sub-total of complete criticism citations. Finally, every fourth article in PMLA and MLR was cursorily scanned for invisible citations, using the first, fifth, ninth, thirteenth item in the first issue of each year; the second, sixth, tenth, fourteenth in the second issue, and so forth. The complete footnotes for a sample article with the resulting data sheet and comments are included as appendix 2 (p. 115).

V

THE STATISTICS AND THEIR EVALUATION

The thirty issues (12, 12, 6) of these three journals--which will be quoted in the order PMLA, MLR, AUMLA, unless otherwise indicated--contained a total of 336 articles (142, 161, 33), five having been omitted from the analysis of AUMLA. Altogether 7,019 numbered notes were examined and these yielded 5,924 citations. After completion of the analysis of all the articles, the totals were computed and transferred to summary sheets, which contain the details for the articles of one issue. At this stage averages were computed for all the details recorded and the basic factors, e.g. pertinency : noise ratio, calculated. Finally the figures for each journal were summarized by issue and year. The summary figures are contained in the following pages. The complete statistics for each issue may be found in appendix 1.

The following abbreviations are used:

E[nglish], F[rench], G[erman], I[talian], S[panish], R[ussian], P[olish], Dt[Dutch], L[atin], He[brew], Dn[Danish], Gk[Greek], LG[Low German], N[orse].

Table 1 Statistical summary by issue and year

PMLA

	art.s	aver. pages	cit.s per p.	total cit.s	total cit.s retr.	= %	total rel. cit.s	rel cit.s retr.	= %	% of rel.cit.s in retr.
1971, 1	13	8.35	2.19	238	208	87.39	140	125	89.29	60.1
2	9	8.78	2.42	191	161	84.29	128	114	89.06	70.81
3	9	10.17	1.88	172	121	70.35	84	63	75	52.07
4	10	8.5	1.91	162	132	81.48	83	72	86.75	54.55
1972, 1	10	8	2.39	191	115	60.21	67	44	65.67	38.94
2	12	9.33	2.16	242	173	71.49	158	122	77.22	70.52
3	15	8.33	1.78	223	160	71.75	107	85	79.44	53.13
4	14	11.58	1.88	283	206	72.79	186	140	75.27	67.96
1973, 1	13	9.12	1.57	186	113	60.75	113	78	69.03	69.03
2	12	9.58	2.03	233	156	66.95	129	98	75.97	62.82
3	11	10.73	2.08	245	181	73.88	145	114	78.62	62.98
4	14	11.46	2.19	351	266	75.78	149	122	81.88	45.86
averages 1971	10.25	8.88	2.1	190.75	155.5	81.52	108.75	93.5	85.98	60.13
1972	12.75	9.17	1.97	234.75	163.5	69.65	129.5	97.75	75.48	59.97
1973	12.5	10.24	1.98	253.75	179	70.54	134	103	76.87	57.54
averages overall	11.83	9.52	2.01	226.42	166	73.32	124.08	98.08	79.05	59.15

					languages													
	books-	articles-	other	median av.age	E	F	G	I	S	R	P	Dt	L	He	Dn	Gk	LG	N
1971, 1	173	59	6	20.59	155	39	30	1	9	3	-	-	1	-	-	-	-	-
2	160	30	1	30.85	151	23	1	5	11	-	-	-	-	-	-	-	-	-
3	129	37	6	20.95	146	21	5	-	-	-	-	-	-	-	-	-	-	-
4	126	35	1	18.17	107	10	45	-	-	-	-	-	-	-	-	-	-	-
1972, 1	174	15	2	23.33	96	21	1	3	66	-	-	-	4	-	-	-	-	-
2	164	69	9	25.66	168	18	51	-	-	-	-	-	5	-	-	-	-	-
3	170	47	6	21.56	164	36	2	11	-	-	-	-	10	-	-	-	-	-
4	215	64	4	21.25	153	37	45	-	44	4	-	-	-	-	-	-	-	-
1973, 1	138	45	3	19.78	129	50	7	-	-	-	-	-	-	-	-	-	-	-
2	179	51	3	27.87	160	47	15	-	11	-	-	-	-	-	-	-	-	-
3	160	83	2	17.78	160	67	7	1	9	-	-	-	1	-	-	-	-	-
4	244	98	9	21.61	288	29	21	6	2	4	-	-	-	-	-	-	-	-
averages	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
1971	77.06	21.1	1.83	22.64	73.26	12.19	10.62	.79	2.62	.39	-	-	.13	-	-	-	-	-
1972	77.00	20.77	2.24	22.95	61.87	11.93	10.54	1.49	11.71	.43	-	-	2.02	-	-	-	-	-
1973	71.03	27.29	1.67	21.76	72.61	19.01	4.93	.69	2.17	.39	-	-	.1	.1	-	-	-	-
averages overall	74.75	23.33	1.91	M 21.56 21.25	69.08	14.65	8.47	.99	5.39	.4	-	-	.77	.04	-	-	-	-

Table 2 Statistical summary by issue and year

MODERN LANGUAGE REVIEW

	art.s	aver. pages	cit.s per p.	total cit.s	total cit.s retr.	= %	total rel. cit.s	rel cit.s retr.	= %	% of rel.cit.s in retr.
1971, 1	14	10.89	2.12	323	267	82.66	187	171	91.44	64.04
2	16	8.22	1.9	250	201	80.4	104	92	88.46	45.77
3	15	10.8	1.64	266	217	81.58	91	80	87.91	36.87
4	13	8.77	1.82	208	151	72.6	74	62	83.78	41.06
1972, 1	12	12	1.31	189	144	76.19	73	61	83.56	42.36
2	13	11	1.46	209	179	85.65	102	95	93.14	53.07
3	12	9.79	1.96	230	135	58.7	78	62	79.49	45.93
4	13	10.08	1.19	156	123	78.85	69	52	75.36	42.28
1973, 1	12	10.17	1.61	196	152	77.55	98	82	83.67	53.95
2	13	10.23	1.33	163	114	69.94	73	54	73.97	47.37
3	12	11.08	1.84	245	196	80	103	92	89.32	46.94
4	16	9.59	1.88	289	220	76.12	138	117	84.78	53.18
averages 1971	14.5	9.66	1.87	261.75	209	79.85	114	101.25	88.82	48.44
1972	12.5	10.71	1.46	196	145.25	74.11	80.5	67.5	83.85	46.47
1973	13.25	10.22	1.65	223.25	170.5	76.37	103	86.25	83.74	50.59
averages overall	13.42	10.17	1.66	227	174.92	77.06	99.17	85	85.71	48.59

	books-articles-other			median av.age	languages													
					E	F	G	I	S	R	P	Dt	L	He	Dn	Gk	LG	N
1971, 1	225	94	4	24.6	111	75	25	1	10	67	-	27	6	-	1	-	-	-
2	194	54	2	28.44	132	31	20	1	9	34	-	7	16	-	-	-	-	-
3	222	39	5	35.15	91	61	47	23	34	1	-	-	6	1	-	2	-	-
4	148	51	9	27.33	80	53	67	-	-	5	-	-	3	-	-	-	-	-
1972, 1	142	42	5	35.6	73	27	54	26	7	1	-	-	1	-	-	-	-	-
2	150	53	6	35.42	101	15	64	6	15	-	-	-	7	-	-	-	1	-
3	126	99	5	20.10	92	24	29	3	8	74	-	-	-	-	-	-	-	-
4	108	45	3	21.75	109	21	12	-	2	7	2	-	3	-	-	-	-	-
1973, 1	147	41	8	34.56	97	32	48	3	16	-	-	-	-	-	-	-	-	-
2	136	26	1	22.67	91	22	19	10	21	-	-	-	-	-	-	-	-	-
3	182	62	1	38.46	153	40	26	6	9	5	-	-	4	-	-	-	-	2
4	209	73	7	23.4	101	37	80	7	12	25	-	4	23	-	-	-	-	-
averages	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
1971	75.36	22.73	1.91	28.88	39.54	21.01	15.19	2.4	5.06	10.22	-	3.25	2.96	.1	.1	.2	-	-
1972	67.09	30.48	2.42	28.22	47.83	11.1	20.3	4.46	4.1	10.46	.25	-	1.4	-	-	-	.25	-
1973	75.48	22.62	1.90	29.77	49.50	14.67	19.37	2.9	6.49	3.36	-	.45	3.02	-	-	-	-	2
averages overall	73.02	24.93	2.06	M 28.44 / 27.33	45.2	16.1	18	3.2	5.3	8	.07	1.4	2.5	.04	.04	.07	.04	.07

Table 3 Statistical summary by issue and year

AUMLA

		art.s	aver. pages	cit.s per p.	total cit.s	total cit.s retr.	= %	total rel. cit.s	rel cit.s retr.	= %	% of rel.cit.s in retr.
1971,	1	3 (5)	12.33	.35	13	12	92.31	3	3	100	25
	2	6 (7)	8.42	1.41	71	47	66.2	30	23	76.67	48.94
	3										
	4										
1972,	1	4	16.63	1.73	115	63	54.78	23	20	86.96	31.75
	2	5 (6)	12.9	1.27	82	58	70.73	26	26	100	44.83
	3										
	4										
1973,	1	6 (7)	14.5	.9	78	59	75.64	33	30	90.91	50.85
	2	9	10.89	1.27	124	90	72.58	26	20	76.92	22.22
	3										
	4										
averages 1971		6	7.29	.96	42	29.5	70.24	16.5	13	78.79	44.07
1972		5	14.56	1.5	98.5	60.5	61.42	24.5	23	93.88	38.02
1973		8	12.33	1.09	101	74.5	73.76	29.5	25	84.75	33.56
averages overall		6.33*	10.62	1.2	80.5	54.83	68.12	23.5	20.33	81.88	37.08

		books-articles-other			median av.age	languages													
						E	F	G	I	S	R	P	Dt	L	He	Dn	Gk	LG	N
1971,	1	11	2	-	27.25	-	1	12											
	2	51	14	6	36.25	49	14	8											
	3																		
	4																		
1972,	1	100	11	4	39.88	49	47	15			1			3					
	2	69	10	3	33.78	31	27	20	1		-			3					
	3																		
	4																		
1973,	1	69	7	2	37.67	3	39	5	9		19			3					
	2	107	12	5	21.64	49	56	11	7		-			-		1			
	3																		
	4																		
averages		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
1971		73.81	19.05	7.14		58.33	17.86	23.81											
1972		85.79	10.66	3.55		40.61	37.56	17.77	.51		.51			3.05					
1973		87.13	9.41	3.47		25.74	47.03	7.92	7.92		9.41			1.49		.5			
averages overall		84.27	11.59	4.14	36.25 M 33.78	37.47	38.1	14.7	3.52		4.14			1.86		.21			

Table 4 CONTENT

Journal	% criticism	% ed. etc.	% reference	% neg. cit.	% peripheral
PMLA 1971,1	58.82	18.07	17.65	2.52	2.94
2	67.02	14.66	12.04	.5	5.76
3	48.84	17.44	19.19	1.16	13.37
4	51.23	19.75	19.14	2.47	7.41
1972,1	35.08	22.51	39.79	-	-
2	65.29	16.12	14.46	.4	3.72
3	47.53	34.08	11.21	.45	6.73
4	65.72	18.37	12.01	-	3.89
1973,1	60.75	20.43	12.37	-	6.45
2	55.36	21.46	14.16	.43	8.58
3	59.18	8.98	13.06	.4	18.37
4	42.45	16.81	17.38	-	23.08
av. 1971	57.01	17.43	16.91	1.7	6.95
1972	55.06	23	18.1	.21	3.62
1973	52.81	16.65	14.68	.2	15.57
overall	54.77	19.03	16.49	.63	9.02
MLR 1971,1	57.89	10.53	18.89	.62	12.07
2	41.6	28.4	22	.8	6.4
3	34.21	34.96	18.42	-	12.41
4	35.58	24.52	25	-	14.9
1972,1	38.62	32.8	17.99	.53	10.05
2	48.8	22.97	23.92	.96	3.35
3	33.91	33.91	10.43	-	21.74
4	44.23	18.59	26.28	.64	10.26
1973,1	50	23.98	11.22	.51	14.29
2	44.79	22.09	20.25	.61	12.27
3	42.04	24.08	20	-	13.88
4	47.75	15.22	25.29	.35	11.42
av. 1971	43.55	23.78	20.73	.38	11.56
1972	41.07	27.68	19.01	.51	11.73
1973	46.14	20.83	19.82	.34	12.88
overall	43.69	23.94	19.93	.4	12.04
AUMLA 35	23.08	46.15	23.08	-	7.69
36	42.25	18.31	32.39	-	7.04
37	20	6.09	60.87	1.74	11.3
38	31.71	32.93	26.83	3.66	4.88
39	42.31	12.82	38.46	-	6.41
40	20.97	38.71	25.81	-	14.52
overall	29.19	22.98	37.27	1.04	9.52

The figures in the foregoing tables show a remarkable degree of homogeneity, the only major divergencies from the "norm" occurring in AUMLA. Both major and minor variations may be ascribed to particular recurrent or non-recurrent features, such as special issues, or the inclusion of a bibliography in the place of, or in addition to, notes. At this juncture it is necessary to look first at the overall picture, to assess the significance of the figures in tables 1-3. After that each area covered in the original proposition will be looked at individually and particular problems discussed.

It has been suggested (p. 36) that in citation indexing a resolution factor of 1 should be attainable, that is, that 100% of all citations should be retrieved. In fact only about 75% of the citations present in footnotes and endnotes were retrieved (73.32, 77.06, 68.12). However, it must not be overlooked that the 25% elimination factor means only that one in every four citations was not fully documented. Some could in fact have been retrieved, i.e. those designated in the statistical tables as split, although not without a resulting loss of economy. On the other hand it must also not be overlooked that this figure does not take invisible citations into account. While the absolute number of such citations is not high, they were a significant factor in some cases. In the articles scanned there were on average approximately two (PMLA) to three (MLR) invisible citations per item.

The recall factor, on the other hand, i.e. the proportion of relevant items retrieved from the total of relevant items, was approximately 83% (79.05, 85.71, 81.88) and therefore higher than the resolution factor.

This rate is well above the 60% demanded as a minimum level for viability and it makes up to some extent for the low resolution rate. It may seem surprising that these two figures should be so different, and the reason is certainly not to be sought in any more careful treatment of critical (i.e. relevant) items. Rather, the higher rate of recall seems to derive from the fact that source works (i.e. non-relevant items) are more apt to be incompletely cited in notes. Many primary works, especially those of the author under discussion, are referred to in the text; an edition may then be cited in the note without the author's name or even without(repetition of) the title.

Although the recall factor is high, this is in turn counterbalanced by the low pertinency rate, which does not rise to the minimum level of 60%, set also for this factor. This figure is almost achieved only by PMLA (59%); MLR and AUMLA have rates of approximately 49% and 37% respectively. Since the proportion of total relevant items retrieved (recall) is high, this low pertinency factor proves that a majority of non-relevant items must be present in the data base. Given, namely, the retrieval of 75 out of every 100 items (resolution factor) and a 48% pertinency factor (average), there are only 36 relevant items in every 75 retrieved. Since, on the other hand, the recall rate is a relatively high 83%, there can only be 7 relevant items in the 25 not retrieved. This means that there are only 43 relevant items per 100 in the data base. Even if the pertinency rate were 60% the number of relevant items would still only be 54 per 100 (45 per 75 retrieved and 9 not retrieved). Reference back to the statistics confirms this: in PMLA, for example, the overall average of relevant citations per issue is 124.08 out of an average total of 226.42 (54.8%). The figures for MLR and AUMLA are 43.69% and 29.19%.

From the point of view of general efficiency the results are therefore unsatisfactory. The resolution factor is well below 100%, namely 75% and this figure could be raised only to approximately 87% by the inclusion of those citations recorded as split. The recall rate of 83% is unexpectedly high, but the large volume of non-relevant material retrieved produces low pertinency/high noise factors. Opinion as to the noise level that may be tolerated will vary, but a level of the order of 41% to 63% seems quite excessive.

Consideration of the pertinency factor brings us back to the terms of the original proposition which posited a close content relationship between citing and cited item as the first desideratum. A pertinency factor below 60% (the average is just below 50%) indicates that this requirement is not met. There is a content relationship in only half the citations retrieved. On the other hand, because in the course of gathering the data all citations to works that appeared to have some specific reference to the topic of the citing article were deemed relevant ("criticism"), it is essential to take a closer look at the degree of content relationship that exists between citing and cited item at least in bibliographical terms.

Although only articles have been used for this study (these average in the three journals between 9.5, 10.2, and 10.6 pages in length),[17] the number of books cited exceeds by far all other forms (articles, dissertations, manuscripts, etc). The proportion of books ranges from 73% (MLR) and 75% (PMLA) to 84% AUMLA), while articles account for only 25%, 23% and 12% respectively; other forms are negligible in this context. Since the publication form was registered rather than the form of the item cited, the proportion of articles should be revised upward slightly to an average of a little over 25% for PMLA/MLR, to take into account those published in volumes of collected essays. The ratio of books to articles nevertheless remains very high, namely of the order of three books to every article.

It was stated above (p. 47) that it would be essential for an HCI to record the pages cited in references to monographs. The question therefore arises as to the specificity (in terms of pages) of such refeences. In PMLA, for example, there are no page numbers in 513 out of the total of 2,717 citations. Since nearly three quarters of these citations are to books, and since only very rarely does a citation to an article not include page numbers, approximately 500 or 25% of the 2,000 book citations carry no page references. Where page numbers are provided, however, they are very small. The average for all page references (PMLA) varies between 3 and 12 per issue (median 5.5), and since the average length of article (used in this study) is approximately 9.5 pages, it follows that the pages cited from books must on the average be less than those cited for articles.

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[17] The number of pages in an article is only a very inexact guide as to its length since page sizes vary. The following are the numbers of words per page counted in the three journals for a solid page of English text: 880, 610, 460.

Reference back to a number of articles confirms this. It is in fact very common for single pages to be cited from books. Taking every tenth article from PMLA as a sample, there are 44 book citations without page numbers and 58 with a single page reference in a total of 139 citations. The remaining 37 cite several pages, individual chapters, and so forth. From these figures the conclusion seems inescapable that citations to monographs without page references, ca. 25% of all monographs cited, are likely to lack any close content relationship.

The discussion of the physical form of the material cited, especially the question of page numbers as a measure of content relevance, leads logically to a consideration of the next condition of viability, namely the requirement of full and accurate bibliographical citations. The resolution factor of 75% is one measure of the degree to which this requirement is fulfilled: approximately one quarter of the citations appearing in notes lack one or more essential elements. These unsatisfactory citations are basically of two kinds: either a part of the information is lacking altogether or it is buried in the text at or near the point where the footnote number occurs. This latter group accounts for 15%, 12%, and 8% respectively of unretrieved citations, and it would presumably not be too difficult to retrieve the missing information from the text. However, as we indicated in discussing the indexer's work, this would be an uneconomical proceeding and one that would demand subject knowledge. We can therefore only note that split citations are an aspect of citation practice that might easily be remedied.

The number of instances where there was no trace at all of an essential part of the bibliographical data for a work that would not be immediately familiar to an expert were therefore surprisingly small. The most fruitful source of error appeared to be the citation of reviews. These were often referred to without indication of the title of the review or of the book reviewed, or without page numbers. It is true of course that reviews are normally grouped at a particular place in a journal or newspaper and may be assumed to be listed under the title of the work reviewed. However, a reference such as "The Athenaeum (18 July 1891)" is hardly adequate.

The economic aspect of the indexing process was discussed at length in the preceding chapter; only the question of foreign languages was deferred. It was suggested that an indexer might reasonably be expected to know one of the major foreign languages, and on this basis the language of the _citing_ articles should present no problems. In the three journals analysed there were the following foreign language items: _PMLA_ 8 French, 3 Spanish, 2 German;[18] _MLR_ 1 French; _AUMLA_ 2 German; this is only a fraction over 1%. However, it must not be forgotten that these journals were deliberately selected from English speaking areas and that, since the language used and the languages cited reflect to a considerable extent the topic discussed,[19] it is to be expected that the bulk of citations is in English, as these journals publish more on English literature than on any other subject. The proportion and range of foreign languages cited remains nevertheless considerable. French and German head the list with 15%, 16%, 33%, and 8%, 18%, 15%. These are followed by Italian: 1%, 3%, 4%, Spanish: 6%, 5%, 0%, and Russian: 4%, 8%, 5%. Latin then leads the list of more "exotic" languages (.77%, 2.5%, 2.16%), which are eight in number, giving a total of 13 foreign languages in all.

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[18] A recent proposal by the MLA Executive that articles should be accepted only if written in English raised sufficient protest that the policy was rescinded.

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[19] See in this connection M. S. Batts, "Citations in the Humanities: A Study of Citation Patterns in Literary Criticism in English, French and German," IPLO Quarterly, 14 (1972), 20-40.

VI

CONCLUSION

In considering the conclusions that may tentatively be drawn from the mass of evidence in the preceding two chapters, the following factors must be borne in mind:

1 the area of research covered is a limited segment of the field of the humanities

2 the journals were selected as representing the "best" in existing citation practice--a "subjective" judgment

3 the time period is too short to permit any inference as to trends in citation practice (for better or for worse)

4 the qualitative assessment of the actual citations, i.e. as to relevance, was an intellectual judgment based on experience rather than on verifiable or quantifiable criteria.

Authors of articles in the journals surveyed appear to endeavour to conform to a pattern of citation practice that involves citing all primary works (editions), reference works, and critical literature that have been consulted in the preparation of the article. The number of citations to text editions, reference works, and the like equals or exceeds the number of references to critical literature, the only category considered to exhibit a close content relationship with the citing article, i.e. to be relevant. Regardless, therefore, of the problems of retrieval, and assuming no substantial difference in the retrieval rate for relevant and non-relevant items, the pertinency factor cannot exceed approximately 50%. This level is not adequate.

Although the bibliographical information is cited with an acceptable degree of accuracy, the citations are frequently either split between text and note or accompanied by (or embedded in) discursive notes. Such citations may, moreover, exhibit one, or a combination, of a number of characteristics (e.g. be in a foreign language or require reference back to earlier notes) that make heavy demands on the mental ability and time of an indexer. The form in which works are cited and the manner in which citations are introduced into notes are therefore such as to require an expenditure of time and effort which would not be economical.

We may therefore conclude that an HCI based on current citation practices in the humanities would not be viable, since the content relationship is lacking in a large proportion of citations and the citations themselves cannot be handled economically.

It was found, however, that a majority of the citations possessed the characteristics that would permit them to be used for the construction of an index. The question therefore arises as to whether or not the obstacles to an HCI are insurmountable, whether the inadequacies cannot be compensated for or a variant or limited form of CI created.

It was established that the recall factor was higher than the resolution factor (83% against 75%) and that the ratio of relevant to non-relevant items was therefore higher among those retrieved than among those not retrieved (36 : 39 as against 7 : 18). Consequently, to raise the resolution factor, i.e. to retrieve more of the citations than the present 75%, would not be a satisfactory solution. The ratio of relevant to non-relevant retrieval items would steadily decrease until it reached ca. 43 : 57 at a resolution factor of 100%. The problem is rather to maintain or increase the recall factor at the same time as eliminating non-relevant items in order to raise the pertinency factor. The problem is, in other words, not how to obtain a resolution factor of 100%, but how to reduce the proportion of non-relevant items retrieved.

There seem to be two possible methods of attaining this goal. Firstly, the situation could be accepted as it is and indexers with subject knowledge and facility in the appropriate foreign language(s) could be employed to select only those citations deemed relevant--much as has been done in this study. This would be expensive because highly skilled staff would be required to devote a considerable amount of time to sorting out the difficulties outlined above; in short it would seem to be an uneconomical proposition. On the other hand, it must be remembered that current methods of indexing periodical articles rely upon just such subject experts to assess the content of articles and assign index terms from a controlled vocabulary. This too is time-consuming and at the same time unsatisfactory owing to the limitations of the indexing vocabulary. It is in fact precisely the weakness of this system that has led to the idea of substituting the citations for the index terms. If this first method were adopted, effort could be diverted from the present systems of indexing.

Alternatively authors could be asked to include with each article a list of those critical studies which they have found to be directly relevant to their topic. If this were done (as is common in the sciences and to a growing extent in the social sciences), then the footnotes could be ignored and the index prepared from these references by relatively unskilled staff, since even foreign languages could be adequately handled if in a prescribed form.[20] This latter alternative would be a very simple solution and one that would require no more effort than that which has recently been applied by editors of North American scholarly journals (language and literature) to requiring abstracts from the authors of articles.

In either case it must be assumed that the very existence of an HCI would lead to changes in citation practice that would facilitate the construction of it; the pattern of citation practice would adapt itself to the exigencies of the indexing system. This would be particularly important in respect of the first alternative. Resistance is likely, however, on two, possibly three counts. The usefulness of any citation index may be disputed; scholars may feel that a move is being made to abolish that most cherished feature of the learned article, the scholarly footnote; and it might also be viewed as wasteful, for some information would almost certainly be repeated from the text and the formal listing of works would require more space than their inclusion in footnotes.

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[20] It should be noted that knowledge of a foreign language does not necessarily mean that the indexer can "recognize" the citation. For example, transliterations of West European names into Cyrillic or Kanji are often unrecognizable to any but the subject expert.

Before either of these two possible methods could be considered, however, further study would be required of two points that have not been examined in this paper, two points, that is, in addition to the problem of the age of citations discussed in the excursus. In the first place a citation index can only be based on the citations that are provided by the citing authors, and this study has concentrated on an analysis of the degree to which current citation practices might lead to an effective index, where effectivity is measured in terms of the retrieval of relevant items cited. But at no point has there been an attempt to assess whether or not the citing author has cited all relevant items used by him and/or all items relevant to his topic. On the one hand it is quite conceivable that an author has failed to cite known relevant items; on the other it is possible, even probable, that there exist items relevant to his topic which he has failed to locate.

The question of the extent to which citations genuinely represent the sources employed by a citing author is one that has been touched upon in the discussion of CIs in the sciences and it is one that is evidently of greater significance for the humanities. This is not because researchers in the humanities are less honest or more prone to make sub-conscious use of unrecalled sources, but rather because the lack of such things as effective analytical indexes to periodical literature make it inevitable that relevant materials are overlooked. While foreign language materials, for example, may be deliberately ignored by scientists on the grounds that the quantity (or quality) is negligible,[21] the same reason cannot hold for the humanities. And yet it is evident from an analysis of national bibliographies that foreign language materials are frequently, even systematically, ignored.

It must consequently be assumed that citations on any given topic do not necessarily include all relevant items and it would be desirable not only to establish by an analysis of author and reader reaction which citations are deemed relevant, but also to assess the extent to which these citations represent all or an acceptable proportion of the total relevant items. This could only be done by comparing the results of a thorough literature search with the results of a "citation search" on a current article on the same topic.

Secondly, it would be desirable to survey the demand for a CI in the humanities, to establish whether or not such an index would be preferred to existing forms of bibliography and index. Scholars commonly use the principle of citation indexing in an informal manner to locate works of possible interest; informally--and even formally--complaints are levelled at the inadequacies of existing bibliographical aids. However, no study has been made as yet of the reasons why literature searches in the humanities are carried out at all. In the sciences it is generally understood that other work on the chosen topic is examined in order a) to find material on which to build and b) to avoid duplicating research already done. But research in the humanities is not necessarily cumulative (see excursus). To take an analogy from the theatre: each production of a play will be different from the preceding one, whether or not the producer has knowledge of earlier productions.

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[21] In a recent private communication from a bibliographer at the National Institute for Medical Research (London) it was reported that, when users are asked about the languages in which references are acceptable, "2 out of 3 times the answer is English only."

The two suggestions for further research are therefore closely linked. It has been our contention that only those citations that fall into the category of "criticism" are relevant. This is such a small proportion of the total citations that any index based on the total of citations would be pointless. However, before the feasibility of CIs in the humanities is discounted entirely, or before the attempt can be made to adapt citation indexing procedures to existing citation patterns resp. citation practices to the exigencies of citation indexes, it is essential to examine the relevance of "relevance" (to adopt the phrase used by Alan Rees.[22] Does the author in the humanities cite "relevant" material on which he has based his work or does he develop his own idea and subsequently make reference to related ideas? Does the author search the literature on his general topic in order to find material on which to build a new theory, or is he merely looking for something that will spark an idea perhaps quite unrelated to that of the work he is reading? These and a host of similar, related questions must be answered before the desirability and practicality of a citation index for the humanities can be determined. If these questions can be answered, it might be found that the principle of serendipity is preferred to that of organized omniscience and that a citation index for the humanities is not needed, however "useful" it might be.

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[22] Alan M. Rees, "The Relevance of Relevance to the Testing and Evaluation of Document Retrieval Systems," ASLIB Proc. 18 (November 1966), 316-24; 325-26.

Excursus: the Life of Citations in the Humanities

The dates of citations were recorded in this study since these were considered an essential part of the bibliographical information. The calculation of the average age of citations was not, however, essential to our purpose; one date may be as easily, i.e. economically, handled as another. On the other hand the age of citations is very relevant to the economics of production and utilization of a CI, and statistics were therefore included in the data sheets. The following discussion is based on these statistics.

Despite the fact that in many instances modern editions of texts were cited rather than original publications, e.g. in the case of Shakespeare, there were nevertheless many publications cited from the nineteenth, eighteenth, seventeenth, and even sixteenth centuries. The average ages calculated were therefore, not unexpectedly, high. Even if we discount the publication dates of source materials as being in the main older than critical material, this critical material may nevertheless be of considerable age. It is logical in fact to suppose that relevant critical material may be cited from any period back to the date of publication of the original work under discussion.

This is perhaps the most striking difference between the attitude toward research work in the humanities and in the sciences. In the sciences earlier research is normally discarded when the results have been utilized to produce new evidence on which to base further research. In the humanities, while the approach may vary, the object of research, the "intellectual artefact" so to speak, remains unchanged, and evidence of value to contemporary scholars may therefore be derived from any period during the history of research on the particular topic. Research in the humanities is only to a limited extent cumulative; there is in fact some evidence of a cyclical pattern which results in more recent views being rejected in favour of earlier ones.

However oversimplified these comments may be, the essential point should be clear: research in the humanities does not "date" in the same way that it does in the sciences. It is possible of course to identify works that are of continuing significance and others that are relegated to obscurity. The "half-life" of research in the humanities is, however, obviously much longer--if indeed it can be calculated--than the five years which is the generally accepted figure in the sciences. This fact has important implications for any HCI, particularly in regard to the process of cycling. Assuming for the sake of argument that the median of the average ages of citations in the humanities as calculated for this study, namely twenty-eight years, represents the half-life of citations, then one would need a run of twenty-eight years of the citation index in order to be able to carry out a thorough search for relevant material.

In reality this half-life figure of twenty-eight is of little use as a guide since it is derived from a wide variety of topics of different ages. Research on a novel published in 1960 cannot be more than fourteen years old, while research cited on Shakespeare may be hundreds of years old. The point may nevertheless be made that a citation index is only fully utilizable if it covers the whole period; it is only acceptably useful (viable) if it covers at least the period back to the median average age of citations for that field. Thus, in our analysis of the research materials cited on Faust II, the average age of citations per article was 27.5 and the median 23.8. One would therefore need about twenty-five years of any citation index in order to be sure of locating the bulk of the material on this topic.

The problem of the age of citations in the humanities and of the consequent need to consult a longer run of any index than is normal in the sciences, is not of course strictly relevant to the question of viability. Any index must begin somewhere and build up; and it would of course be perfectly possible to work back as well as forward in time in order to cover a long span of time as soon as possible. However, the maintenance and use of such long runs of an index would be inconvenient, and some study of the life of critical work in the humanities and the degree of relevance of older works seems to be called for. If desirable, it would be a relatively simple matter to employ cutoff dates before which citations need not be recorded. The major difficulty would lie in the necessity of providing different cutoff dates for innumerable topics.

Appendix 1

Data sheets for *PMLA* issues 1971-73 81 - 92
MLR issues 1971-73 93 - 104
AUMLA issues 1971-73 105 - 110

Summary sheets *PMLA* 111
MLR 112
AUMLA 113

Summary of content *PMLA*/*MLR*/*AUMLA* 114

											aver-				pages		language													
article	pp.	notes	ref	bk	art	diss	ms	jnl	ppr	per	age	com.	inc	spl	x 0;	/	E	F	G	I	S	R	P	Dt	L	[illegible]	Dn	Gk	LG	N
PMLA71/1/1	9.5	10	11	11	-	-	-	-	-	-	7.11	5	2	4	6	13/5	4	7	-	-	-	-	-	-	-	-	-	-	-	-
2	6	39	34	18	14	2	-	-	-	-	17.23	32	2	-	7	188/27	18	2	1	-	9	3	-	-	1	-	-	-	-	-
3	7	17	20	11	9	-	-	-	-	-	20.6	20	-	-	1	181/19	20	-	-	-	-	-	-	-	-	-	-	-	-	-
4	7.5	19	18	11	7	-	-	-	-	-	34.33	18	-	-	4	269/13	18	-	-	-	-	-	-	-	-	-	-	-	-	-
5	10.5	18	21	19	1	1	-	-	-	-	27.25	21	-	-	9	43/12	20	1	-	-	-	-	-	-	-	-	-	-	-	-
6	12	25	17	10	7	-	-	-	-	-	15	14	-	3	2	33/15	17	-	-	-	-	-	-	-	-	-	-	-	-	-
7	7	9	2	2	-	-	-	-	-	-	29	2	-	-	-	7/2	2	-	-	-	-	-	-	-	-	-	-	-	-	-
8	6.5	37	36	27	8	-	1	-	-	-	20.59	29	2	5	8	126/28	36	-	-	-	-	-	-	-	-	-	-	-	-	-
9	6.5	15	6	5	-	-	1	-	-	-	16.4	5	1	-	1	5/5	6	-	-	-	-	-	-	-	-	-	-	-	-	-
10	5.5	1	1	1	-	-	-	-	-	-	19	1	-	-	-	1/1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9.5	13	31	26	4	-	1	-	-	-	58.13	28	1	2	5	198/25	9	20	1	1	-	-	-	-	-	-	-	-	-	-
12	10	18	10	7	3	-	-	-	-	-	39.7	9	-	1	1	10/9	1	9	-	-	-	-	-	-	-	-	-	-	-	-
13	11	44	31	25	6	-	-	-	-	-	12.81	24	-	7	11	26/20	3	-	28	-	-	-	-	-	-	-	-	-	-	-
14																														
15																														
16																														
17																														
18																														
totals	108.5	265	238	173	59	3	3	-	-	-	M 20.59	208	8	22	55	1100/181	155	39	30	1	9	3	-	-	1	-	-	-	-	-
averages	8.35	20.38	18.31	13.31	4.54	-	-	-	-	-	24.4	16	-	-	4.23	6.08	11.92	3	2.3	-	-	-	-	-	-	-	-	-	-	

	not com.	com.	crit/com		ed.etc.	ref.	neg.cit.	peripheral
1	6	5	11	5	-	-	-	-
2	2	32	21	21	8	2	1	2
3	-	20	18	18	2	-	-	-
4	-	18	16	16	1	1	-	-
5	-	21	12	12	4	5	-	-
6	3	14	16	13	1	-	-	-
7	-	2	1	1	1	-	-	-
8	7	29	17	12	6	11	-	2
9	1	5	3	3	-	3	-	-
10	-	1	-	-	1	-	-	-
11	3	28	8	7	-	18	4	1
12	1	9	7	7	3	-	-	-
13	7	24	10	10	16	2	1	2
14								
15								
16								
17								
18								
totals	30	208	140	125	43	42	6	7
averages	2.31	16	10.77	9.62	3.31	3.23	-	-
		% 58.82			18.07	17.65	2.52	2.94

total criticism	criticism retrieved	percentage
140	125	89.29
complete citations	criticism retrieved	percentage
208	125	60.1
total citations	complete citations	percentage
238	208	87.39

notes

citations/page	2.19
invisible citations	4/1/1/0 = 6

																	language													
article	pp.	notes	ref	bk	art	diss	ms	jnl	ppr	per	average	com	inc	spl	pages x 0;	/	E	F	G	I	S	R	P	Dt	L	He	Dn	Gk	LG	N
PMLA71/2/1	6.5	21	13	11	2	-	-	-	-	-	30.85	9	-	4	5	64/8	5	8	-	-	-	-	-	-	-	-	-	-	-	-
2	11.5	67	46	46	-	-	-	-	-	-	26.15	45	-	1	1	101/44	27	8	-	-	11	-	-	-	-	-	-	-	-	-
3	8	33	34	29	5	-	-	-	-	-	37.94	28	2	4	1	123/32	34	-	-	-	-	-	-	-	-	-	-	-	-	-
4	7.5	30	20	17	3	-	-	-	-	-	65.15	14	3	3	0	36/20	19	1	-	-	-	-	-	-	-	-	-	-	-	-
5	6.5	29	34	24	10	-	-	-	-	-	78.94	28	5	1	9	163/23	27	2	-	5	-	-	-	-	-	-	-	-	-	-
6	10.5	16	10	9	1	-	-	-	-	-	23.7	10	-	-	4	56/6	10	-	-	-	-	-	-	-	-	-	-	-	-	-
7	4.5	7	5	4	1	-	-	-	-	-	48.6	3	-	2	1	66/4	5	-	-	-	-	-	-	-	-	-	-	-	-	-
8	13.5	19	7	7	-	-	-	-	-	-	12	6	-	1	-	18/7	2	4	1	-	-	-	-	-	-	-	-	-	-	-
9	10.5	36	22	13	8	-	1	-	-	-	12.38	18	1	3	2	87/20	22	-	-	-	-	-	-	-	-	-	-	-	-	-
10																														
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15																														
16																														
17																														
18																														
totals	79	258	191	160	30	-	1	-	-	-	M 30.85	161	11	19	23	714/164	151	23	1	5	11	-	-	-	-	-	-	-	-	-
averages	8.78	28.67	21.22	17.78	3.33	-	-	-	-	-	37.3	17.89	1.22	2.11	2.56	4.35	16.78													

	not com.	com.	crit/com		ed.etc.	ref.	neg.cit.	peripheral
1	4	9	9	6	2	2	-	-
2	1	45	46	45	-	-	-	-
3	6	28	22	18	5	7	-	-
4	6	14	5	3	12	3	-	-
5	6	28	18	14	3	4	-	9
6	-	10	8	8	1	-	1	-
7	2	3	1	1	1	2	-	1
8	1	6	5	5	1	-	-	1
9	4	18	14	14	3	5	-	-
10								
11								
12								
13								
14								
15								
16								
17			~					
18								
totals	30	161	128	114	28	23	1	11
averages	3.33	17.89	14.22	12.67	3.11	2.56	-	1.22
		%	67.02		14.66	12.04	.5	5.76

total criticism	criticism retrieved	percentage
128	114	89.06
complete citations	criticism retrieved	percentage
161	114	70.81
total citations	complete citations	percentage
191	161	84.29

notes

citations/page	2.42
invisible citations	0/1 = 1

article	pp.	notes	ref	bk	art	diss	ms	jnl	ppr	per	average	com	inc	spl	pages x O;	/	E	F	G	I	S	R	P	Dt	L	He	Dn	Gk	LG	N
PMLA71/3/1	11.5	22	22	11	6	-	2	-	3	-	20.95	9	8	5	7	16/15	22	-	-	-	-	-	-	-	-	-	-	-	-	-
2	12.5	34	32	28	4	-	-	-	-	-	14.97	26	-	6	1	80/28	32	-	-	-	-	-	-	-	-	-	-	-	-	-
3	17.5	21	14	11	3	-	-	-	-	-	42.21	5	3	6	1	29/13	14	-	-	-	-	-	-	-	-	-	-	-	-	-
4	4.5	20	23	19	4	-	-	-	-	-	61.86	16	4	3	3	74/20	3	20	-	-	-	-	-	-	-	-	-	-	-	-
5	10.5	36	26	20	6	-	-	-	-	-	37.72	18	4	4	10	23/11	20	1	5	-	-	-	-	-	-	-	-	-	-	-
6	5.5	18	13	9	4	-	-	-	-	-	15	10	-	3	5	38/8	13	-	-	-	-	-	-	-	-	-	-	-	-	-
7	17.5	33	19	14	4	1	-	-	-	-	60.68	15	3	1	4	55/15	19	-	-	-	-	-	-	-	-	-	-	-	-	-
8	5.5	6	12	9	3	-	-	-	-	-	18.42	12	-	-	4	25/8	12	-	-	-	-	-	-	-	-	-	-	-	-	-
9	6.5	9	11	8	3	-	-	-	-	-	6.55	10	1	-	7	22/4	11	-	-	-	-	-	-	-	-	-	-	-	-	-
10																														
11																														
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15																														
16																														
17																														
18																														
totals	91.5	199	172	129	37	1	2	-	3	-	M20.95	121	24	28	42	362/122	146	21	5	-	-	-	-	-	-	-	-	-	-	-
averages	10.17	22.11	19.11	14.33	4.11						30.93	13.44	2.67	3.11	4.67	2.97														

	not com.	com.	crit/com		ed.etc.	ref.	neg.cit.	peripheral
1	13	9	7	3	-	5	-	10
2	6	26	12	10	6	13	-	1
3	9	5	10	3	1	3	-	-
4	7	16	9	7	8	5	-	1
5	8	18	12	11	8	6	-	-
6	3	10	9	6	3	-	-	1
7	4	15	7	5	1	1	-	10
8	-	12	8	8	2	-	2	-
9	1	10	10	10	1	-	-	-
10								
11								
12								
13								
14								
15								
16								
17								
18								
totals	51	121	84	63	30	33	2	23
averages	5.67	13.44	9.33	7	3.33	3.67		
		%	48.84		17.44	19.19	1.16	13.37

total criticism	criticism retrieved	percentage
84	63	75
complete citations	**criticism retrieved**	**percentage**
121	63	52.07
total citations	**complete citations**	**percentage**
172	121	70.35

notes

citations/page	1.88
invisible citations	19+

article	pp.	notes	ref	bk	art	diss	ms	jnl	ppr	per	aver age	com	inc	spl	pages x 0;	/	E	F	G	I	S	R	P	Dt	L	He	Dn	Gk	LG	N
PMLA/715/1	15.5	33	33	22	10	1	-	-	-	-	15.06	30	2	2	9	119/23	10	-	23	-	-	-	-	-	-	-	-	-	-	-
2	5.5	14	8	7	1	-	-	-	-	-	14	5	-	3	-	39/8	-	8	-	-	-	-	-	-	-	-	-	-	-	-
3	12.5	62	39	31	8	-	-	-	-	-	14.69	31	-	8	16	291/23	15	2	22	-	-	-	-	-	-	-	-	-	-	-
4	6.5	17	9	7	2	-	-	-	-	-	14	8	-	1	-	33/9	9	-	-	-	-	-	-	-	-	-	-	-	-	-
5	7.5	4	4	4	-	-	-	-	-	-	16.5	-	-	4	-	5/4	4	-	-	-	-	-	-	-	-	-	-	-	-	-
6	7.5	9	17	14	3	-	-	-	-	-	21.82	17	-	-	10	84/7	17	-	-	-	-	-	-	-	-	-	-	-	-	-
7	7.5	22	15	12	3	-	-	-	-	-	21.13	13	-	2	3	30/12	15	-	-	-	-	-	-	-	-	-	-	-	-	-
8	8.5	27	20	19	1	-	-	-	-	-	19.85	13	-	7	-	48/18	20	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9.5	8	3	2	1	-	-	-	-	-	53.67	2	-	1	1	4/2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
10	4.5	23	14	8	6	-	-	-	-	-	37.86	13	1	-	1	41/13	14	-	-	-	-	-	-	-	-	-	-	-	-	-
11																														
12																														
13																														
14																														
15																														
16																														
17																														
18																														
totals	85	219	162	126	35	1	-	-	-	-	M18.17	132	3	28	40	694/119	107	10	45	-	-	-	-	-	-	-	-	-	-	-
averages	8.5	21.9	16.2	12.6	3.5						22.86	13.2		2.8	4	5.83														

	not com.	com.	crit/com		ed.etc.	ref.	neg.cit.	peripheral
1	4	30	23	21	3	3	4	-
2	3	5	4	3	3	-	-	1
3	8	31	17	16	1	13	-	8
4	1	8	2	2	1	4	-	2
5	4	-	1	0	2	-	-	1
6	-	17	10	10	6	1	-	-
7	2	13	9	8	6	-	-	-
8	7	13	10	6	5	5	-	-
9	1	2	1	1	2	-	-	-
10	1	13	6	5	3	5	-	-
11								
12								
13								
14								
15								
16								
17								
18								
totals	31	132	83	72	32	31	4	12
averages	3.1	13.2	8.3	7.2	3.2	3.1	-	1.2
		%	51.23		19.75	19.14	2.47	7.41

total criticism	criticism retrieved	percentage
83	72	86.75
complete citations	criticism retrieved	percentage
132	72	54.55
total citations	complete citations	percentage
162	132	81.48

notes

citations/page 1.91

invisible citations 0/0 = 0

article	pp.	notes	ref	bk	art	diss	ms	jnl	ppr	per	aver. age	com	inc	spl	pages x 0;	/	E	F	G	I	S	R	P	Dt	L	He	Dn	Gk	LG	N
PMLA/72/1/1	4.5	5	5	4	-	-	-	1	-	-	12.5	1	-	4	1	4/4	5	-	-	-	-	-	-	-	-	-	-	-	-	-
2	13.5	71	82	76	6	-	-	-	-	-	81.05	55	26	1	8	176/53	4	5	-	3	66	-	-	-	4	-	-	-	-	-
3	45	5	5	5	-	-	-	-	-	-	43	2	-	3	2	4/3	5	-	-	-	-	-	-	-	-	-	-	-	-	-
4	10.5	45	42	37	4	1	-	-	-	-	126.93	32	2	8	5	115/33	41	-	1	-	-	-	-	-	-	-	-	-	-	-
5	11	20	13	12	1	-	-	-	-	-	37	7	5	1	1	45/12	13	-	-	-	-	-	-	-	-	-	-	-	-	-
6	10.5	3	7	5	2	-	-	-	-	-	13	6	1	-	1	47/4	7	-	-	-	-	-	-	-	-	-	-	-	-	-
7	5	10	6	6	-	-	-	-	-	-	29.83	2	-	4	-	7/6	6	-	-	-	-	-	-	-	-	-	-	-	-	-
8	6	11	7	6	1	-	-	-	-	-	16.14	3	-	4	-	9/7	7	-	-	-	-	-	-	-	-	-	-	-	-	-
9	45	7	6	6	-	-	-	-	-	-	15.17	2	2	2	1	7/5	6	-	-	-	-	-	-	-	-	-	-	-	-	-
10	10	16	18	17	1	-	-	-	-	-	16.83	3	14	1	12	8/6	2	16	-	-	-	-	-	-	-	-	-	-	-	-
11																														
12																														
13																														
14																														
15																														
16																														
17																														
18																														
ls	80	193	191	174	15	1	-	1	-	-	M23.33	113	50	28	31	422/133	96	21	1	3	66	-	-	-	4	-	-	-	-	-
Averages	8	19.3	19.1	17.4	1.5						39.15	11.3	5	2.8	3.1	3.17														

	not com.	com.	crit/com		ed.etc.	ref.	neg.cit.	peripheral
1	4	1	5	1	-	-	-	-
2	27	55	26	24	4	52	-	-
3	3	2	1	1	3	1	-	-
4	10	32	11	5	8	23	-	-
5	6	7	4	3	9	-	-	-
6	1	6	6	6	1	-	-	-
7	4	2	3	-	3	-	-	-
8	4	3	5	1	2	-	-	-
9	4	2	3	1	3	-	-	-
10	15	3	3	2	15	-	-	-
11								
12								
13								
14								
15								
16								
17								
18								
totals	78	113	67	44	48	76	-	-
averages	7.8	11.3	6.7	4.4	4.8	7.6		

% 35.08 22.51 39.79

total criticism	criticism retrieved	percentage
67	44	65.67
complete citations	criticism retrieved	percentage
113	44	38.94
total citations	complete citations	percentage
191	115	60.21

notes

citations/page 2.39

invisible citations0/0 = 0

article	pp.	notes	ref	bk	art	diss	ms	jnl	ppr	per	aver. age	com	inc	spl	pages x 0;	/	E	F	G	I	S	R	P	Dt	L	He	Dn	Gk	LG	N
																	language													
PMLA/722/1	15	41	9	8	1	-	-	-	-	-	11.88	8	1	-	2	90/6	2	-	7	-	-	-	-	-	-	-	-	-	-	-
2	14.5	50	22	16	6	-	-	-	-	-	32.29	18	4	-	7	208/14	3	-	19	-	-	-	-	-	-	-	-	-	-	-
3	9.5	46	29	22	6	-	-	1	-	-	34.41	14	6	9	5	86/23	3	1	25	-	-	-	-	-	-	-	-	-	-	-
4	9	16	25	11	13	1	-	-	-	-	74.72	22	-	3	1	200/24	20	-	-	-	-	-	-	-	5	-	-	-	-	-
5	11.5	29	21	16	5	-	-	-	-	-	22	19	1	1	-	36/19	21	-	-	-	-	-	-	-	-	-	-	-	-	-
6	6.5	64	23	15	8	-	-	-	-	-	52.09	16	6	1	3	70/20	23	-	-	-	-	-	-	-	-	-	-	-	-	-
7	8.5	23	21	19	2	-	-	-	-	-	27	9	2	10	5	86/16	21	-	-	-	-	-	-	-	-	-	-	-	-	-
8	15.5	40	47	25	17	4	1	-	-	-	24.33	38	4	5	8	34/35	47	-	-	-	-	-	-	-	-	-	-	-	-	-
9	6.5	16	16	11	3	2	-	-	-	-	20.63	9	2	5	1	35/15	16	-	-	-	-	-	-	-	-	-	-	-	-	-
10	5.5	16	8	7	1	-	-	-	-	-	28.63	8	-	-	-	14/8	1	7	-	-	-	-	-	-	-	-	-	-	-	-
11	10.5	20	7	6	1	-	-	-	-	-	14.57	7	-	-	1	27/5	4	3	-	-	-	-	-	-	-	-	-	-	-	-
12	8.5	24	14	8	6	-	-	-	-	-	12.43	3	4	7	-	27/14	7	7	-	-	-	-	-	-	-	-	-	-	-	-
13																														
14																														
15																														
16																														
17																														
18																														
totals	112	385	242	164	69	7	1	1	-	-	M25.66	171	30	41	33	1220/199	168	18	51	-	-	-	-	-	5	-	-	-	-	-
averages	9.33	32.08	20.17	13.67	5.75						29.58	14.25	2.5	3.42	2.75	6.13														

	not com.	com.	crit/com		ed.etc.	ref.	neg.cit.	peripheral
1	1	8	6	6	2	-	1	-
2	4	18	16	14	2	4	-	-
3	15	14	16	9	9	2	-	2
4	3	22	17	14	-	7	-	1
5	2	21	18	17	1	2	-	-
6	7	16	12	10	5	5	-	1
7	12	9	9	3	1	11	-	-
8	9	38	30	25	10	2	-	5
9	7	9	13	9	1	2	-	-
10	-	8	7	7	1	-	-	-
11	-	7	5	5	2	-	-	-
12	10	3	9	3	5	-	-	-
13								
14								
15								
16								
17								
18								
totals	70	173	158	122	39	35	1	9
averages	5.83	14.42	13.17	10.17	3.25	2.92		
		%	65.29		16.12	14.46	.4	3.72

total criticism	criticism retrieved	percentage
158	122	77.22
complete citations	criticism retrieved	percentage
173	122	70.52
total citations	complete citations	percentage
242	173	71.49

notes

citations/page 2.16
invisible citations 2/2/0 = 4

article	pp.	notes	ref	bk	art	diss	ms	jnl	ppr	per	aver age	com	inc	cpl	pages x 0;	/	E	F	G	I	S	R	P	Dt	L	He	Dn	Gk	LG	N
PMLA/72/3/1	6.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	6.5	15	18	7	10	-	-	-	1	-	13.53	13	3	2	4	58/13	15	-	2	1	-	-	-	-	-	-	-	-	-	-
3	5.5	19	27	27	-	-	-	-	-	-	208.33	17	3	7	3	32/22	14	2	-	1	-	-	-	-	10	-	-	-	-	-
4	8.5	8	12	9	3	-	-	-	-	-	21	9	2	1	5	50/7	11	1	-	-	-	-	-	-	-	-	-	-	-	-
5	10.5	52	39	28	11	-	-	-	-	-	77.21	36	3	-	3	96/35	38	1	-	-	-	-	-	-	-	-	-	-	-	-
6	6.5	12	10	9	1	-	-	-	-	-	28.67	5	3	2	4	11/5	10	-	-	-	-	-	-	-	-	-	-	-	-	-
7	7.5	8	7	7	-	-	-	-	-	-	21.67	7	-	-	-	26/7	7	-	-	-	-	-	-	-	-	-	-	-	-	-
8	11.5	14	6	5	1	-	-	-	-	-	12.83	3	2	1	-	5/5	6	-	-	-	-	-	-	-	-	-	-	-	-	-
9	8.5	8	10	8	2	-	-	-	-	-	15.1	9	-	1	1	12/9	10	-	-	-	-	-	-	-	-	-	-	-	-	-
10	12.5	21	12	10	2	-	-	-	-	-	25.58	8		2	3	31/9	12	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9.5	54	42	24	13	4	-	-	1	-	21.45	23	15	4	11	93/30	40	2	-	-	-	-	-	-	-	-	-	-	-	-
12	8	1	1	1	-	-	-	-	-	-	15	1	-	-	-	1/1	-	1	-	-	-	-	-	-	-	-	-	-	-	-
13	8.5	23	16	14	2	-	-	-	-	-	17.94	10	4	2	1	27/14	1	15	-	-	-	-	-	-	-	-	-	-	-	-
14	6.5	8	14	13	1	-	-	-	-	-	34.23	11	3	-	5	115/9	-	14	-	-	-	-	-	-	-	-	-	-	-	-
15	8.5	21	9	8	1	-	-	-	-	-	32.44	8	1	-	2	8/7	-	-	-	9	-	-	-	-	-	-	-	-	-	-
16																														
17																														
18																														
totals	125	264	223	170	47	4	-	-	2	-	M21.56	160	41	22	43	565/173	164	36	2	11	-	-	-	-	10	-	-	-	-	-
averages	8.33	17.6	14.87	11.33	3.13						36.33	10.67	2.73	1.87	2.47	3.27														

	not com.	com.	crit/com		ed.etc.	ref.	neg.cit.	peripheral
1	-	-	-	-	-	-	-	-
2	5	13	9	6	1	5	-	3
3	10	17	-	-	24	1	-	2
4	3	9	9	7	2	-	-	1
5	3	36	21	20	9	8	-	1
6	5	5	6	4	2	2	-	-
7	-	7	3	3	1	2	-	1
8	3	3	2	1	2	-	-	2
9	1	9	3	2	6	1	-	-
10	4	8	6	4	5	-	1	-
11	19	23	17	12	15	6	-	4
12	-	1	-	-	1	-	-	-
13	6	10	10	8	5	-	-	1
14	3	11	12	10	2	-	-	-
15	1	8	8	8	1	-	-	-
16								
17								
18								
totals	63	160	106	85	76	25	1	15
averages	4.2	10.67	7.07	5.67	5.07	1.67		
		%	47.53		34.08	11.21	.45	6.73

total criticism	criticism retrieved	percentage
107	85	79.44
complete citations	criticism retrieved	percentage
160	85	53.13
total citations	complete citations	percentage
223	160	71.75

notes

citations/page 1.78
invisible citations 0/0/0/9 = 9

article	pp.	notes	ref	bk	art	diss	ms	jnl	ppr	per	aver. age	com	inc	spl	pages x 0;	/	E	F	G	I	S	R	P	Dt	L	He	Dn	Gk	LG	N
PML1/72/5/1	12	18	20	15	5	-	-	-	-	-	5.24	9	4	7	6	156/14	19	1	-	-	-	-	-	-	-	-	-	-	-	-
2	18	24	38	36	2	-	-	-	-	-	22.11	35	3	-	19	231/19	24	3	11	-	-	-	-	-	-	-	-	-	-	-
3	12.5	13	14	9	5	-	-	-	-	-	16.07	7	2	5	1	83/13	14	-	-	-	-	-	-	-	-	-	-	-	-	-
4	8.5	12	14	10	4	-	-	-	-	-	13.5	7	1	6	3	59/8	2	12	-	-	-	-	-	-	-	-	-	-	-	-
5	7	16	15	10	4	-	-	-	-	1	14.85	6	4	5	7	12/6	1	14	-	-	-	-	-	-	-	-	-	-	-	-
6	15.5	43	32	20	10	2	-	-	-	-	28.71	25	1	6	7	304/26	12	1	1	-	18	-	-	-	-	-	-	-	-	-
7	12.5	30	32	20	12	-	-	-	-	-	22.72	28	1	3	7	482/24	4	1	1	-	26	-	-	-	-	-	-	-	-	-
8	12.5	18	36	23	12	1	-	-	-	-	16.44	33	1	2	10	644/26	5	-	31	-	-	-	-	-	-	-	-	-	-	-
9	9.5	39	43	38	5	-	-	-	-	-	18.78	27	9	7	4	216/34	34	4	1	-	-	4	-	-	-	-	-	-	-	-
10	8	13	7	6	1	-	-	-	-	-	31.71	7	-	-	3	23/4	6	1	-	-	-	-	-	-	-	-	-	-	-	-
11	9.5	41	13	12	1	-	-	-	-	-	96.25	10	3	-	3	11/9	13	-	-	-	-	-	-	-	-	-	-	-	-	-
12	9.5	7	7	6	1	-	-	-	-	-	21.29	6	-	1	2	70/4	7	-	-	-	-	-	-	-	-	-	-	-	-	-
13	15.5	20	12	10	2	-	-	-	-	-	21.25	6	5	1	4	11/8	12	-	-	-	-	-	-	-	-	-	-	-	-	-
14																														
15																														
16																														
17																														
18																														
totals	150.5	295	283	215	64	3	-	-	-	1	M 21.25	206	34	43	76	2302/195	153	37	45	-	44	4	-	-	-	-	-	-	-	-
averages	11.58	22.62	21.77	16.54	4.92						25.3	15.85	2.62	3.31	5.85	11.81														

	not com.	com.	crit/com		ed.etc.	ref.	neg.cit.	peripheral
1	11	9	11	1	6	1	-	2
2	3	35	28	28	3	5	-	2
3	7	7	9	6	2	2	-	1
4	7	7	11	5	1	2	-	-
5	9	6	11	6	2	2	-	-
6	7	25	20	16	1	11	-	-
7	4	28	18	16	6	8	-	-
8	3	33	30	28	5	1	-	-
9	16	27	33	20	4	-	-	6
10	-	7	4	4	3	-	-	-
11	3	10	2	2	9	2	-	-
12	1	6	6	5	1	-	-	-
13	6	6	3	3	9	-	-	-
14								
15								
16								
17								
18								
totals	77	206	186	140	52	34	-	11
averages	5.92	15.85	14.31	10.77	4	2.62		
		%	65.72		18.37	12.01		3.89

total criticism	criticism retrieved	percentage
186	140	75.27
complete citations	criticism retrieved	percentage
206	140	67.96
total citations	complete citations	percentage
283	206	72.79

notes

citations/page 1.88
invisible citations 0/10/0/0 = 10

article	pp.	notes	ref	bk	art	diss	ms	jnl	ppr	per	aver. age	com	inc	spl
MLA73/1/1	10.5	32	36	30	5	1	-	-	-	-	80.24	27	5	4
2	6	26	20	18	2	-	-	-	-	-	25.8	17	3	-
3	8.5	43	40	26	12	1	-	-	1	-	15.92	24	5	11
4	6.5	4	5	5	-	-	-	-	-	-	21.6	1	-	4
5	10.5	17	13	13	-	-	-	-	-	-	14.38	4	5	4
6	9.5	9	11	7	4	-	-	-	-	-	18.64	10	-	1
7	6.5	5	5	3	2	-	-	-	-	-	28.6	2	-	3
8	9.5	13	7	3	4	-	-	-	-	-	9.71	6	-	1
9	12.5	5	9	7	2	-	-	-	-	-	19.78	1	3	5
10	8	7	10	4	6	-	-	-	-	-	20.9	6	1	3
11	11.5	16	11	9	2	-	-	-	-	-	11.64	8	-	3
12	9.5	32	13	8	5	-	-	-	-	-	52.69	5	3	5
13	9.5	12	6	5	1	-	-	-	-	-	18.67	2	3	1
14														
15														
16														
17														
18														
totals	118.5	221	186	138	45	2	-	-	1	-	M19.78	113	28	45
averages	9.12	18.23	14.31	10.62	3.46						26.04	8.69	2.15	3.46

article	pages x 0;	/	E	F	G	I	S	R	P	Dt	L	He	Dn	Gk	LC	N
MLA73/1/1	9	100/22	33	1	2	-	-		—	-	-	-	-	-	-	-
2	1	95/19	6	14	-	-	-	-	-	-	-	-	-	-	-	-
3	2	104/37	9	31	-	-	-	-	-	-	-	-	-	-	-	-
4	2	3/3	1	4	-	-	-	-	-	-	-	-	-	-	-	-
5	-	15/10	13	-	-	-	-	-	-	-	-	-	-	-	-	-
6	1	63/10	6	-	5	-	-	-	-	-	-	-	-	-	-	-
7	-	38/5	5	-	-	-	-	-	-	-	-	-	-	-	-	-
8	1	83/6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
9	5	49/4	9	-	-	-	-	-	-	-	-	-	-	-	-	-
10	1	34/9	10	-	-	-	-	-	-	-	-	-	-	-	-	-
11	3	44/8	11	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	42/13	13	-	-	-	-	-	-	-	-	-	-	-	-	-
13	4	2/2	6	-	-	-	-	-	-	-	-	-	-	-	-	-
14																
15																
16																
17																
18																
totals	29	672/148	129	50	7	-	-	-	-	-	-	-	-	-	-	-
averages	2.23	4.54	9.92													

	not com.	com.	crit/com		ed.etc.	ref.	neg.cit.	peripheral
1	9	27	25	18	3	4	-	4
2	3	17	9	9	6	4	-	1
3	16	24	33	21	5	-	-	2
4	4	1	3	1	-	-	-	2
5	9	4	3	3	8	-	-	2
6	1	10	7	6	2	2	-	-
7	3	2	3	-	2	-	-	-
8	1	6	7	6	-	-	-	-
9	8	1	6	1	3	-	-	-
10	4	6	8	6	1	-	-.	1
11	3	8	6	5	1	4	-	-
12	8	5	2	1	3	8	-	-
13	4	2	1	1	4	1	-	-
14								
15								
16								
17								
18								
totals	73	113	113	78	38	23	-	12
averages	5.62	8.69	8.69	6	2.92	1.77		
		% 60.75			20.43	12.37		6.45

total criticism	criticism retrieved	percentage
113	78	69.03
complete citations	criticism retrieved	percentage
113	78	69.03
total citations	complete citations	percentage
186	113	60.75

notes

citations/page 1.57
invisible citations 0/0/0/0

article	pp.	notes	ref	bk	art	diss	ms	jnl	ppr	per	aver. age	com	inc	spl	pages x 0;	/	E	F	G	I	S	R	P	Dt	L	He	Dn	Gk	LG	N
																	language													
PMLA/732/1	8.5	17	16	11	5	-	-	-	-	-	32.13	5	-	11	1	32/15	16	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9.5	25	24	17	7	-	-	-	-	-	11.04	17	4	3	7	76/16	13	-	-	-	11	-	-	-	-	-	-	-	-	-
3	13.5	30	18	15	2	-	1	-	-	-	9.82	14	4	-	3	158/15	3	1	14	-	-	-	-	-	-	-	-	-	-	-
4	6.5	19	23	22	1	-	-	-	-	-	23.61	21	-	2	5	134/18	22	1	-	-	-	-	-	-	-	-	-	-	-	-
5	5.5	15	25	18	6	1	-	-	-	-	220.2	20	1	4	12	54/13	25	-	-	-	-	-	-	-	-	-	-	-	-	-
6	13.5	14	24	21	3	-	-	-	-	-	63.57	15	6	3	3	82/18	23	-	1	-	-	-	-	-	-	-	-	-	-	-
7	10.5	12	12	6	6	-	-	-	-	-	57.5	10	1	1	1	37/11	12	-	-	-	-	-	-	-	-	-	-	-	-	-
8	9.5	26	30	20	10	-	-	-	-	-	18.43	19	9	2	2	119/28	30	-	-	-	-	-	-	-	-	-	-	-	-	-
9	7.5	14	7	6	1	-	-	-	-	-	18.71	3	4	-	2	16/5	3	4	-	-	-	-	-	-	-	-	-	-	-	-
10	9.5	16	14	11	3	-	-	-	-	-	35.43	11	2	1	3	109/9	3	11	-	-	-	-	-	-	-	-	-	-	-	-
11	11.5	33	33	26	7	-	-	-	-	-	36.73	29	3	1	14	102/18	9	24	-	-	-	-	-	-	-	-	-	-	-	-
12	9.5	23	7	6	-	-	-	-	1	-	9.71	2	3	2	1	8/6	1	6	-	-	-	-	-	-	-	-	-	-	-	-
13																														
14																														
15																														
16																														
17																														
18																														
totals	115	244	233	179	51	1	1	-	1	-	M27.87	156	37	30	54	927/172	160	47	15	-	11	-	-	-	-	-	-	-	-	-
averages	9.58	20.33	19.42	14.92	4.25	-	-	-	-	-	44.71	13	3.08	2.5	4.5	5.39	13.33													

	not com.	com.	crit/com		ed.etc.	ref.	neg.cit.	peripheral
1	11	5	14	4	1	1	-	-
2	7	17	18	14	1	-	-	5
3	4	14	14	13	3	-	-	1
4	2	21	4	2	3	12	-	4
5	5	20	6	3	2	16	-	1
6	9	15	11	8	7	3	-	3
7	2	10	9	8	3	-	-	-
8	11	19	19	19	11	-	-	-
9	4	3	5	1	1	-	-	1
10	3	11	11	10	3	-	-	-
11	4	29	17	16	12	1	1	2
12	5	2	1	-	3	-	-	3
13								
14								
15								
16								
17								
18								
totals	67	156	129	98	50	33	1	20
averages	5.58	13	10.75	8.17	4.17	2.75	-	-
%			55.36		21.46	14.16	.43	8.58

total criticism	criticism retrieved	percentage
129	98	75.97
complete citations	criticism retrieved	percentage
156	98	62.82
total citations	complete citations	percentage
233	156	66.95

notes

citations/page 2.03

invisible citations 0/0/0

article	pp.	notes	ref	bk	art	diss	ms	jnl	ppr	per	aver. age	com	inc	spl	pages x 0;	/	language													
																	E	F	G	I	S	R	P	Dt	L	He	Dn	Gk	LG	N
PMLA/73/3/1	7.5	19	20	11	8	-	-	-	1	-	65.68	12	4	4	6	41/12	13	1	6	-	-	-	-	-	-	-	-	-	-	-
2	9.5	29	41	26	15	-	-	-	-	-	12.51	41	-	-	6	592/35	41	-	-	-	-	-	-	-	-	-	-	-	-	-
3	10.5	19	24	18	6	-	-	-	-	-	34.96	19	-	5	2	217/22	22	2	-	-	-	-	-	-	-	-	-	-	-	-
4	10.5	8	10	7	3	-	-	-	-	-	10.8	5	-	5	-	29/10	10	-	-	-	-	-	-	-	-	-	-	-	-	-
5	11.5	9	7	7	-	-	-	-	-	-	23	5	1	1	-	6/6	6	-	-	-	-	-	-	-	1	-	-	-	-	-
6	8.5	20	25	9	15	-	1	-	-	-	12.96	20	1	4	2	47/23	25	-	-	-	-	-	-	-	-	-	-	-	-	-
7	11	39	54	39	15	-	-	-	-	-	33.59	40	3	11	1	733/53	12	40	-	1	1	-	-	-	-	-	-	-	-	-
8	11.5	27	18	15	3	-	-	-	-	-	17.94	9	5	4	4	14/13	1	17	-	-	-	-	-	-	-	-	-	-	-	-
9	11.5	7	6	6	-	-	-	-	-	-	10.83	3	2	1	1	9/5	2	4	-	-	-	-	-	-	-	-	-	-	-	-
10	14.5	22	23	15	8	-	-	-	-	-	17.78	13	1	9	7	134/16	11	3	1	-	8	-	-	-	-	-	-	-	-	-
11	11.5	9	17	7	10	-	-	-	-	-	14.41	14	2	1	1	164/13	17	-	-	-	-	-	-	-	-	-	-	-	-	-
12																														
13																														
14																														
15																														
16																														
17																														
18																														
totals	118	208	245	160	83	-	1	-	1	-	117.78	181	19	45	30	1986/208	160	67	7	1	9	-	-	-	1	-	-	-	-	-
averages	10.73	18.91	22.27	14.55	7.55						23.13	16.45	1.73	4.09	2.73	9.55	14.55													

	not com.	com.	crit/com		ed.etc.	ref.	neg.cit.	peripheral
1	8	12	7	5	-	2	-	11
2	-	41	40	40	1	-	-	-
3	5	19	12	8	2	3	-	7
4	5	5	7	4	1	-	1	1
5	2	5	4	3	1	2	-	-
6	5	20	17	15	3	3	-	2
7	14	40	26	20	5	5	-	18
8	9	9	10	3	2	3	-	3
9	3	3	1	1	4	1	-	-
10	10	13	10	4	2	10	-	1
11	3	14	11	11	1	3	-	2
12								
13								
14								
15								
16								
17								
18								
totals	64	181	145	114	22	32	1	45
averages	5.82	16.45	13.18	10.36	2	2.91		4.09
		%	59.18		8.98	13.06	.4	18.37

total criticism	criticism retrieved	percentage
145	114	78.62
complete citations	criticism retrieved	percentage
181	114	62.98
total citations	complete citations	percentage
245	181	73.88

notes

citations/page 2.08
invisible citations 2/2/0 = 4

																									language					
article	pp.	notes	ref	bk	art	diss	ms	jnl	ppr	per	aver. age	com	inc	spl	pages x 0;	/	E	F	G	I	S	R	P	Dt	L	He	Dn	Gk	LG	N
PMLA73/5/1	19.5	59	94	63	30	1	-	-	-	-	21.63	81	4	9	23	924/63	84	6	1	3	-	-	-	-	-	-	-	-	-	-
2	6.5	21	38	28	10	-	-	-	-	-	23.16	31	1	6	1	218/37	36	-	2	-	-	-	-	-	-	-	-	-	-	-
3	8.5	15	20	14	4	1	-	-	1	-	34.45	19	1	-	3	106/17	19	-	1	-	-	-	-	-	-	-	-	-	-	-
4	16.5	14	12	10	1	-	1	-	-	-	34.8	6	1	5	4	10/8	12	-	-	-	-	-	-	-	-	-	-	-	-	-
5	16.5	54	30	21	8	-	1	-	-	-	16.36	23	3	4	2	96/27	30	-	-	-	-	-	-	-	-	-	-	-	-	-
6	11.5	45	53	29	22	-	2	-	-	-	31.08	17	3	33	2	112/49	49	3	-	-	1	-	-	-	-	-	-	-	-	-
7	8.5	18	18	11	7	-	-	-	-	-	18.11	17	1	-	-	115/18	18	-	-	-	-	-	-	-	-	-	-	-	-	-
8	10.5	16	15	13	1	-	1	-	-	-	17.43	12	2	1	5	36/7	15	-	-	-	-	-	-	-	-	-	-	-	-	-
9	11.5	23	12	11	1	-	-	-	-	-	21.58	10	1	1	1	14/11	4	7	1	-	-	-	-	-	-	-	-	-	-	-
10	9.5	12	12	12	-	-	-	-	-	-	28.58	9	-	3	2	11/10	5	7	-	-	-	-	-	-	-	-	-	-	-	-
11	8.5	6	5	5	-	-	-	-	-	-	10	5	-	-	3	59/2	-	5	-	-	-	-	-	-	-	-	-	-	-	-
12	15.5	23	17	13	3	-	1	-	-	-	13.36	12	1	4	4	97/11	6	-	11	-	-	-	-	-	-	-	-	-	-	-
13	11	21	17	8	9	-	-	-	-	-	12.76	17	-	-	5	52/12	9	-	3	1	-	4	-	-	-	-	-	-	-	-
14	6.5	15	8	6	2	-	-	-	-	-	23.25	7	-	1	2	31/6	1	1	2	2	1	-	-	-	-	1	-	-	-	-
15																														
16																														
17																														
18																														
totals	160.5	342	351	244	98	2	6	-	1	-	M 21.61	266	18	67	57	1881/278	288	29	21	6	2	4	-	-	-	1	-	-	-	-
averages	11.46	24.43	25.07	17.43	7						21.9	19	1.29	4.79	4.07	6.77	20.57													

	not com.	com.	crit/com		ed.etc.	ref.	neg.cit.	peripheral
1	13	81	30	30	3	17	-	44
2	7	31	29	23	3	5	-	1
3	1	19	13	12	5	1	-	1
4	6	6	-	-	10	-	-	2
5	7	23	8	7	12	8	-	2
6	36	17	21	5	1	8	-	23
7	1	17	15	15	3	-	-	-
8	3	12	9	7	3	1	-	1
9	2	10	2	2	1	4	-	5
10	3	9	5	4	2	4	-	1
11	-	5	-	-	5	-	-	-
12	5	12	5	5	7	4	-	1
13	-	17	9	9	3	5	-	-
14	1	7	3	3	1	4	-	-
15								
16								
17								
18								
totals	85	266	149	122	59	61	-	81
averages	6.07	19	10.64	8.71	4.21	4.36	-	5.79
		%	42.45		16.81	17.38		23.08

total criticism	criticism retrieved	percentage
149	122	81.88
complete citations	criticism retrieved	percentage
266	122	45.86
total citations	complete citations	percentage
351	266	75.78

notes

citations/page 2.19

invisible citations 1/0/0 = 1

article	pp.	notes	ref	bk	art	diss	ms	jnl	ppr	per	aver. age	com	inc	spl	pages x 0;	/	language													
																	E	F	G	I	S	R	P	Dt	L	He	Dn	Gk	LG	N
MLR/71/1 1	9.5	12	15	12	3	-	-	-	-	-	53.6	15	-	-	4	84/9	15	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9.5	11	7	5	2	-	-	-	-	-	24.6	6	-	1	1	66/6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
3	9.5	9	8	4	4	-	-	-	-	-	18.9	6	1	2	-	71/7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
4	8.5	3	2	2	-	-	-	-	-	-	23	-	2	-	1	1/1	2	-	-	-	-	-	-	-	-	-	-	-	-	-
5	12.5	33	26	20	6	-	-	-	-	-	13.2	25	1	-	5	112/20	8	17	1	-	-	-	-	-	-	-	-	-	-	-
6	12.5	46	39	37	1	-	1	-	-	-	196.6	36	-	2	23	181/16	9	26	-	-	-	-	-	-	4	-	-	-	-	-
7	9.5	26	27	16	11	-	-	-	-	-	79	19	2	6	7	116/20	3	24	-	-	-	-	-	-	-	-	-	-	-	-
8	8.5	11	10	5	5	-	-	-	-	-	10.1	9	-	1	1	100/9	2	8	-	-	-	-	-	-	-	-	-	-	-	-
9	8.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	6.5	22	21	16	5	-	-	-	-	-	113.4	17	1	3	2	106/15	7	-	2	-	10	-	-	-	2	-	-	-	-	-
11	11.5	16	11	5	6	-	-	-	-	-	69.4	10	1	-	3	140/8	-	-	11	-	-	-	-	-	-	-	-	-	-	-
12	12	20	14	12	2	-	-	-	-	-	9.2	13	-	1	4	119/10	5	-	9	-	-	-	-	-	-	-	-	-	-	-
13	13.5	72	49	33	13	-	3	-	-	-	51	18	10	21	18	302/26	20	-	1	-	-	-	-	27	-	-	1	-	-	-
14	20.5	1	94	58	36	-	-	-	-	-	17.6	93	1	-	52	744/40	25	-	1	1	-	67	-	-	-	-	-	-	-	-
15																														
16																														
17																														
18																														
totals	1525	282	323	225	94	-	4	-	-	-	M 24.6	267	19	37	121	2142/187	111	75	25	1	10	67	0	27	6	-	1	-	-	-
averages	10.89	20.14	23.07	16.07	6.71	-	-	-	-	-	52.3	19.07	1.3	2.64	8.64	11.45	7.93	5.36	1.79	-	-	4.8	-	1.9	-	-	-	-	-	-

	not com.	com.	crit/com	ed.etc.	ref.	neg.cit.	peripheral
1	-	15	2 2	4	6	-	3
2	1	6	6 6	1	-	-	-
3	2	6	6 5	1	1	-	-
4	2	-	- -	2	-	-	-
5	1	25	14 14	2	7	-	3
6	2	36	4 4	2	15	1	17
7	8	19	14 11	10	2	1	-
8	1	9	9 9	1	-	-	-
9	-	-	- -	-	-	-	-
10	4	17	9 7	2	7	-	3
11	1	10	6 6	-	5	-	-
12	1	13	10 10	1	3	-	-
13	31	18	24 5	8	14	-	13
14	1	93	93 92	-	1	-	-
15							
16							
17							
18							
totals	56	267	187 171	34	61	2	39
averages	4	19.07	13.36 12.21	2.43	4.36	-	2.79
%			57.89	10.53	18.89	.62	12.07

total criticism	criticism retrieved	percentage
187	171	91.44
complete citations	criticism retrieved	percentage
267	171	64.04
total citations	complete citations	percentage
323	267	82.66

notes

citations/page 2.12
invisible citations 21/14/12/11 (58)

															pages		language													
article	pp.	notes	ref	bk	art	diss	ms	jnl	ppr	per	aver. age	com	inc	spl	x 0;	/	E	F	G	I	S	R	P	Dt	L	He	Dn	Gk	LG	N
MLR/71/2/1	9.5	28	33	21	12	-	-	-	-	-	10.34	30	2	1	13	258/20	29	4	-	-	-	-	-	-	-	-	-	-	-	-
2	12.5	32	30	28	2	-	-	-	-	-	176.1	22	5	3	3	77/27	24	1	-	1	1	-	-	-	3	-	-	-	-	-
3	8.5	31	22	20	2	-	-	-	-	-	102.67	9	8	5	2	83/18	20	-	-	-	-	-	-	-	2	-	-	-	-	-
4	9	15	21	19	2	-	-	-	-	-	191.43	18	2	1	3	67/17	15	1	-	-	-	-	-	-	5	-	-	-	-	-
5	11.5	30	12	11	1	-	-	-	-	-	163.83	10	-	2	-	70/12	11	-	-	-	-	-	-	-	1	-	-	-	-	-
6	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	7.5	10	7	4	3	-	-	-	-	-	26.86	7	-	-	1	67/4	2	4	-	-	-	-	-	-	1	-	-	-	-	-
8	9	24	13	11	2	-	-	-	-	-	16.77	12	1	-	5	78/8	4	9	-	-	-	-	-	-	-	-	-	-	-	-
9	6.5	25	11	6	4	-	-	-	-	1	9.4	2	3	6	3	48/8	5	6	-	-	-	-	-	-	-	-	-	-	-	-
10	5.5	21	17	12	4	-	-	-	-	1	28.44	13	2	2	1	104/16	4	6	-	-	7	-	-	-	-	-	-	-	-	-
11	3.5	5	3	3	-	-	-	-	-	-	21.33	2	1	-	-	3/3	2	-	-	-	1	-	-	-	-	-	-	-	-	-
12	10.5	26	18	16	2	-	-	-	-	-	52.44	15	1	2	5	34/9	7	-	-	-	-	-	-	7	4	-	-	-	-	-
13	9.5	24	14	14	-	-	-	-	-	-	13.64	13	-	1	5	16/6	-	-	14	-	-	-	-	-	-	-	-	-	-	-
14	1.5	11	3	3	-	-	-	-	-	-	41	3	-	-	1	1/1	2	-	1	-	-	-	-	-	-	-	-	-	-	-
15	9.5	6	6	3	3	-	-	-	-	-	13.5	5	-	1	-	114/6	2	-	4	-	-	-	-	-	-	-	-	-	-	-
16	13.5	52	40	23	17	-	-	-	-	-	45.13	40	-	-	-	93/40	5	-	1	-	-	34	-	-	-	-	-	-	-	-
17																														
18																														
totals	131.5	340	250	194	54	-	-	-	-	2	28.44	201	25	24	42	1113/195	132	31	20	1	9	34	-	7	16	-	-	-	-	-
verages	8.22	21.25	15.63	12.13	3.38	-	-	-	-	-	60.86	12.56	1.56	1.5	2.63	5.71	8.25	1.94	1.25	-	-	2.13	-	-	1	-	-	-	-	-

	not com.	com.	crit/com		ed.etc.	ref.	neg.cit.	peripheral
1	3	30	21	21	3	8	-	1
2	8	22	2	1	26	1	-	1
3	13	9	5	1	12	4	-	1
4	3	18	6	6	3	12	-	-
5	2	10	4	4	3	3	-	2
6	-	-	-	-	-	-	-	-
7	-	7	3	3	1	3	-	-
8	1	12	11	11	2	-	-	-
9	9	2	7	2	3	1	-	-
10	4	13	10	10	-	2	-	5
11	1	2	-	-	1	2	-	-
12	3	15	6	5	4	7	-	1
13	1	13	5	5	6	1	-	2
14	-	3	-	-	-	2	1	-
15	1	5	3	2	1	-	-	2
16	-	40	21	21	6	9	1	3
17								
18								
totals	49	201	104	92	71	55	2	18
averages	3.06	12.56	6.5	5.75	4.44	3.44	-	1.13
		%	41.6		28.4	22	.8	6.4

total criticism	criticism retrieved	percentage
104	92	88.46
complete citations	criticism retrieved	percentage
201	92	45.77
total citations	complete citations	percentage
250	201	80.4

notes

citations/page 1.9
invisible citations 2/0/3/0 (5)

																	language													
article	pp.	notes	ref	bk	art	diss	ms	jnl	ppr	per	aver. age	com	inc	spl	pages x 0;	/	E	F	G	I	S	R	P	Dt	L	He	Dn	Gk	LG	N
MLR/11/3/1	7	32	25	21	3	-	1	-	-	-	66.67	25	-	-	3	390/21	17	6	-	-	-	-	-	-	2	-	-	-	-	-
2	3.5	7	4	3	1	-	-	-	-	-	11.5	2	-	2	-	9/4	4	-	-	-	-	-	-	-	-	-	-	-	-	-
3	4.5	24	6	4	2	-	-	-	-	-	64	5	1	-	2	6/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	13.5	11	4	1	3	-	-	-	-	-	16	4	-	-	1	51/3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
5	10.5	6	7	6	1	-	-	-	-	-	45.67	3	2	2	2	14/5	5	2	-	-	-	-	-	-	-	-	-	-	-	-
6	9.5	26	13	11	2	-	-	-	-	-	35.15	10	2	1	2	71/10	11	2	-	-	-	-	-	-	-	-	-	-	-	-
7	9.5	35	23	20	2	1	-	-	-	-	50.78	23	-	-	2	177/21	7	4	6	-	-	-	-	-	4	-	-	2	-	-
8	12	10	14	13	1	-	-	-	-	-	28.86	7	2	5	6	154/8	3	11	-	-	-	-	-	-	-	-	-	-	-	-
9	10.5	18	19	18	1	-	-	-	-	-	18.06	10	2	7	7	38/12	5	14	-	-	-	-	-	-	-	-	-	-	-	-
10	3	7	7	7	-	-	-	-	-	-	21.83	4	3	-	3	6/4	1	6	-	-	-	-	-	-	-	-	-	-	-	-
11	11.5	26	47	43	4	-	-	-	-	-	45.91	43	1	3	13	296/34	9	12	-	23	1	1	-	-	-	1	-	-	-	-
12	18.5	36	25	18	7	-	-	-	-	-	57.96	18	3	4	2	234/22	5	2	-	-	18	-	-	-	-	-	-	-	-	-
13	8.5	20	15	10	4	1	-	-	-	-	116.14	12	-	3	8	51/7	-	-	-	-	15	-	-	-	-	-	-	-	-	-
14	19.5	87	37	33	3	1	-	-	-	-	25.57	35	1	1	12	202/19	9	2	26	-	-	-	-	-	-	-	-	-	-	-
15	20.5	28	20	14	5	1	-	-	-	-	15.28	16	2	2	6	25/12	5	-	15	-	-	-	-	-	-	-	-	-	-	-
16																														
17																														
18																														
totals	162	373	266	222	39	4	1	-	-	-	35.15	217	19	30	69	1724/186	91	61	47	23	34	1	-	-	6	1	-	2	-	-
averages	10.8	24.87	17.73	14.8	2.6	-	-	-	-	-	41.29	14.47	1.27	2	4.6	9.27	6.07	4.1	3.1	1.5	2.3	-	-	-	-	-	-	-	-	-

	not com.	com.	crit/com		ed.etc.	ref.	neg.cit.	peripheral
1	-	25	2	2	1	20	-	2
2	2	2	3	2	1	-	-	-
3	1	5	2	1	1	3	-	-
4	-	4	4	4	-	-	-	-
5	4	3	2	1	3	-	-	2
6	3	10	2	2	5	-	-	6
7	-	23	4	4	14	3	-	2
8	7	7	7	7	7	-	-	-
9	9	10	5	4	7	3	-	4
10	3	4	1	1	3	3	-	-
11	4	43	12	11	21	1	-	13
12	7	18	16	11	2	7	-	-
13	3	12	3	3	6	6	-	-
14	2	35	14	14	17	3	-	3
15	4	16	14	13	5	-	-	1
16								
17								
18								
totals	49	217	91	80	93	49	-	33
averages	3.27	14.47	6.07	5	6.2	3.27	-	2.2
		%	34.21		34.96	18.42		12.41

total criticism	criticism retrieved	percentage
91	80	87.91
complete citations	criticism retrieved	percentage
217	80	36.53
total citations	complete citations	percentage
266	217	81.58

notes

citations/page 1.64
invisible citations 0/1+/10/1 (12)

article	pp.	notes	ref	bk	art	diss	ms	jnl	ppr	per	aver. age	com	inc	spl
LR 71/4/1	9.5	8	6	6	-	-	-	-	-	-	27.33	6	-	-
2	6.5	23	21	20	1	-	-	-	-	-	188.38	10	1	10
3	125	14	11	10	1	-	-	-	-	-	3627	8	-	3
4	8.5	44	24	17	4	-	3	-	-	-	5219	14	7	3
5	11.5	6	4	4	-	-	-	-	-	-	27.	3	-	1
6	2.5	14	9	4	3	1	1	-	-	-	1925	7	-	2
7	10.5	27	20	11	9	-	-	-	-	-	24.8	15	-	5
8	11.5	21	20	10	8	1	1	-	-	-	2637	12	3	5
9	3.5	5	3	3	-	-	-	-	-	-	2967	1	-	2
10	7.5	9	7	5	2	-	-	-	-	-	5.57	7	-	-
11	15.5	45	31	22	7	2	-	-	-	-	35.54	27	3	1
12	6	35	32	28	4	-	-	-	-	-	160.81	22	-	10
13	8.5	20	20	8	12	-	-	-	-	-	1425	19	1	-
14														
15														
16														
17														
18														
totals	114	271	208	148	51	4	5	-	-	-	M27.33	151	15	42
averages	8.77	20.85	16	11.38	3.92	-	-	-	-	-	49.80	11.62	1.15	3.23

article	pages x 0;	/	E	F	G	I	S	R	P	Dt	L	He	Dn	Gk	LG	N
1	3	3/3	6	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	24/21	20	1	-	-	-	-	-	-	-	-	-	-	-	-
3	4	11/7	11	-	-	-	-	-	-	-	-	-	-	-	-	-
4	9	56/13	10	9	-	-	-	5	-	-	-	-	-	-	-	-
5	-	41/4	3	1	-	-	-	-	-	-	-	-	-	-	-	-
6	1	9/5	3	5	1	-	-	-	-	-	-	-	-	-	-	-
7	3	39/16	8	11	-	-	-	-	-	-	1	-	-	-	-	-
8	5	64/14	6	14	-	-	-	-	-	-	-	-	-	-	-	-
9	1	2/2	-	3	-	-	-	-	-	-	-	-	-	-	-	-
10	1	8/6	-	7	-	-	-	-	-	-	-	-	-	-	-	-
11	1	124/27	1	2	26	-	-	-	-	-	2	-	-	-	-	-
12	4	36/27	2	-	30	-	-	-	-	-	-	-	-	-	-	-
13	1	158/15	10	-	10	-	-	-	-	-	-	-	-	-	-	-
14																
15																
16																
17																
18																
totals	33	575/160	80	53	67	-	-	5	-	-	3	-	-	-	-	-
averages	2.54	3.59	6.15	4.08	5.1	-	-	-	-	-	-	-	-	-	-	-

	not com.	com.	crit/com		ed.etc.	ref.	neg.cit.	peripheral
1	-	6	-	-	3	3	-	-
2	11	10	2	1	13	2	-	4
3	3	8	5	2	2	2	-	2
4	10	14	1	1	7	10	-	6
5	1	3	1	1	3	-	-	-
6	2	7	3	1	5	1	-	-
7	5	15	15	13	3	1	-	1
8	8	12	10	7	4	4	-	2
9	2	1	-	-	2	-	-	1
10	-	7	2	2	5	-	-	-
11	4	27	16	15	2	10	-	3
12	10	22	-	-	1	19	-	12
13	1	19	19	19	1	-	-	-
14								
15								
16								
17								
18								
totals	57	151	74	62	51	52	-	31
averages	4.38	11.62	5.69	4.77	3.92	4	-	2.38
%		35.58			24.52	25		14.9

total criticism	criticism retrieved	percentage
74	62	83.78
complete citations	criticism retrieved	percentage
151	62	41.06
total citations	complete citations	percentage
208	151	72.60

notes

citations/page 1.82
invisible citations 0/4/7 (11)

article	pp.	notes	ref	bk	art	diss	ms	jnl	ppr	per	aver. age	com	inc	spl	pages x 0;	/	E	F	G	I	S	R	P	Dt	L	He	Dn	Gk	LG	N
MLR/72/71	9.5	4	4	2	2	-	-	-	-	-	11.5	4	-	-	-	28/4	4	-	-	-	-	-	-	-	-	-	-	-	-	-
2	19.5	40	21	16	4	-	1	-	-	-	41.15	13	4	4	-	137/20	21	-	-	-	-	-	-	-	-	-	-	-	-	-
3	12.5	16	12	12	-	-	-	-	-	-	80.75	11	-	1	1	12/11	12	-	-	-	-	-	-	-	-	-	-	-	-	-
4	5.5	10	6	5	1	-	-	-	-	-	23.5	4	-	2	-	35/6	6	-	-	-	-	-	-	-	-	-	-	-	-	-
5	11.5	16	17	13	4	-	-	-	-	-	28.24	13	1	3	2	198/12	4	12	1	-	-	-	-	-	-	-	-	-	-	-
6	11.5	18	18	13	5	-	-	-	-	-	88	10	1	7	3	52/15	3	14	-	-	1	-	-	-	-	-	-	-	-	-
7	8.5	22	31	24	6	-	-	1	-	-	116	26	3	2	23	77/8	5	-	-	26	-	-	-	-	-	-	-	-	-	-
8	11.5	14	10	9	1	-	-	-	-	-	58.44	8	1	1	1	67/8	3	1	-	-	6	-	-	-	-	-	-	-	-	-
9	22.5	40	44	29	13	1	1	-	-	-	42.85	35	7	2	17	374/25	8	-	35	-	-	-	-	-	1	-	-	-	-	-
10	8.5	6	6	5	-	1	-	-	-	-	30	6	-	-	4	20/2	-	-	6	-	-	-	-	-	-	-	-	-	-	-
11	15.5	21	18	12	6	-	-	-	-	-	11.44	12	1	5	6	151/12	6	-	12	-	-	-	-	-	-	-	-	-	-	-
12	7.5	8	2	2	-	-	-	-	-	-	12	2	-	-	-	8/2	1	-	-	-	-	1	-	-	-	-	-	-	-	-
13																														
14																														
15																														
16																														
17																														
18																														
totals	144	215	189	142	42	2	2	1	-	-	M 35.6	144	18	27	57	159/125	73	27	54	26	7	1	-	-	1	-	-	-	-	-
averages	12	17.92	15.75	11.83	3.5	-	-	-	-	-	45.57	12	1.5	2.25	4.75	9.27	6.08	-	-	-	-	-	-	-	-	-	-	-	-	-

	not com.	com.	crit/com		ed.etc.	ref.	neg.cit.	peripheral
1	-	4	3	3	-	1	-	-
2	8	13	11	5	7	3	-	-
3	1	11	1	1	3	5	-	3
4	2	4	5	3	1	-	-	-
5	4	13	10	9	6	-	-	1
6	8	10	4	4	9	4	-	1
7	5	26	3	2	18	2	1	7
8	2	8	6	5	2	1	-	1
9	9	35	19	18	6	15	-	4
10	-	6	2	2	4	-	-	-
11	6	12	8	8	5	3	-	2
12	-	2	1	1	1	-	-	-
13								
14								
15								
16								
17								
18								
totals	45	144	73	61	62	34	1	19
averages	3.75	12	6.08	5.08	5.17	2.83	-	1.58
		%	38.62		32.8	17.99	.53	10.05

total criticism	criticism retrieved	percentage
73	61	83.56
complete citations	criticism retrieved	percentage
144	61	42.36
total citations	complete citations	percentage
189	144	76.19

notes

citations/page 1.31
invisible citations 0/0/2 = 2

97

article	pp.	notes	ref	bk	art	diss	ms	jnl	ppr	per	aver. age	com	inc	spl	pages x 0;	/	language E	F	G	I	S	R	P	Dt	L	He	Dn	Gk	LG	N
ILR/72/2/1	10.5	19	40	19	21	-	-	-	-	-	23.4	38	1	1	5	438/30	40	-	-	-	-	-	-	-	-	-	-	-	-	-
2	4.5	10	7	6	1	-	-	-	-	-	20.29	4	-	3	1	21/5	6	-	-	1	-	-	-	-	-	-	-	-	-	-
3	6.5	7	2	2	-	-	-	-	-	-	62	1	1	-	1	1/1	2	-	-	-	-	-	-	-	-	-	-	-	-	-
4	7	15	12	8	4	-	-	-	-	-	35.42	9	1	2	6	92/6	12	-	-	-	-	-	-	-	-	-	-	-	-	-
5	10.5	15	15	7	8	-	-	-	-	-	13.6	12	2	1	2	144/13	15	-	-	-	-	-	-	-	-	-	-	-	-	-
6	8.5	6	5	1	-	3	-	1	-	-	75.6	2	1	2	5	- /-	2	3	-	-	-	-	-	-	-	-	-	-	-	-
7	8.5	4	4	3	1	-	-	-	-	-	43.25	2	-	2	2	11/2	2	2	-	-	-	-	-	-	-	-	-	-	-	-
8	8.5	5	4	4	-	-	-	-	-	-	16.75	3	1	-	3	2/1	2	2	-	-	-	-	-	-	-	-	-	-	-	-
9	9.5	16	18	11	7	-	-	-	-	-	10.17	16	1	1	4	375/14	9	4	-	5	-	-	-	-	-	-	-	-	-	-
10	8.5	28	23	21	2	-	-	-	-	-	207.83	23	-	-	4	61/18	6	3	-	-	8	-	-	-	6	-	-	-	-	-
11	11.5	6	7	6	1	-	-	-	-	-	11.29	7	-	-	-	19/7	-	-	-	-	7	-	-	-	-	-	-	-	-	-
12	23.5	55	26	23	3	-	-	-	-	-	46.31	22	1	3	14	173/12	4	1	21	-	-	-	-	-	-	-	-	-	-	-
13	25.5	44	46	39	5	2	-	-	-	-	107.77	40	4	2	14	234/30	1	-	43	-	-	-	-	-	1	-	-	-	1	-
14																														
15																														
16																														
17																														
18																														
tals	143	230	209	150	53	5	-	1	-	-	M 35.42	179	13	17	61	1571/139	101	15	64	6	15	-	-	-	7	-	-	-	1	-
averages	11	17.69	16.08	11.54	4.08						51.82	13.77	1	1.31	4.69	11.3														

	not com.	com.	crit/com		ed.etc.	ref.	neg.cit.	peripheral
1	2	38	35	35	3	1	-	1
2	3	4	3	3	3	-	-	1
3	1	1	-	-	2	-	-	-
4	3	9	6	6	4	2	-	-
5	3	12	12	12	2	1	-	-
6	3	2	3	2	2	-	-	-
7	2	2	2	1	1	-	-	1
8	1	3	1	1	2	-	-	1
9	2	16	7	6	1	7	2	1
10	-	23	4	4	1	18	-	-
11	-	7	5	5	2	-	-	-
12	4	22	8	6	11	7	-	-
13	6	40	16	14	14	14	-	2
14								
15								
16								
17								
18								
totals	30	179	102	95	48	50	2	7
averages	2.31	13.77	7.85	7.31	3.69	3.85		
		%	48.8		22.97	23.92	.96	3.35

total criticism	criticism retrieved	percentage
102	95	93.14
complete citations	criticism retrieved	percentage
179	95	53.07
total citations	complete citations	percentage
209	179	85.65

notes

citations/page 1.46

invisible citations 0/0/0

article	pp.	notes	ref	bk	art	diss	ms	jnl	ppr	per	aver. age	com	inc	spl	pages x 0;	/	E	F	G	I	S	R	P	Dt	L	M	Dn	Gk	LG	N
MLR/72/3/1	4.5	8	7	6	1	-	-	-	-	-	20.57	2	-	5	2	8/5	7	-	-	-	-	-	-	-	-	-	-	-	-	-
2	3.5	14	12	11	1	-	-	-	-	-	137.75	10	1	1	9	19/3	8	-	-	1	3	-	-	-	-	-	-	-	-	-
3	11	16	10	9	1	-	-	-	-	-	99.3	4	1	5	-	196/10	10	-	-	-	-	-	-	-	-	-	-	-	-	-
4	15.5	46	45	7	38	-	-	-	-	-	122.98	8	32	5	2	652/42	43	2	-	-	-	-	-	-	-	-	-	-	-	-
5	6.5	20	11	9	2	-	-	-	-	-	15.2	10	1	-	1	38/8	10	-	1	-	-	-	-	-	-	-	-	-	-	-
6	11.5	5	5	5	-	-	-	-	-	-	16.8	-	-	5	5	-/-	-	5	-	-	-	-	-	-	-	-	-	-	-	-
7	6.5	10	9	7	1	1	-	-	-	-	71.44	9	-	-	6	7/3	3	4	-	2	-	-	-	-	-	-	-	-	-	-
8	7	12	12	8	3	-	1	-	-	-	19.64	8	1	3	2	9/9	-	12	-	-	-	-	-	-	-	-	-	-	-	-
9	12.5	11	8	6	2	-	-	-	-	-	8.38	6	2	-	2	6/6	2	1	-	-	5	-	-	-	-	-	-	-	-	-
10	15.5	33	12	6	5	1	-	-	-	-	5.36	8	1	3	4	22/8	3	-	9	-	-	-	-	-	-	-	-	-	-	-
11	10.5	22	21	14	7	-	-	-	-	-	6.95	14	-	7	2	288/19	2	-	19	-	-	-	-	-	-	-	-	-	-	-
12	13	82	78	38	38	-	2	-	-	-	27.53	56	22	-	24	257/52	4	-	-	-	-	74	-	-	-	-	-	-	-	-
13																														
14																														
15																														
16																														
17																														
18																														
totals	117.5	279	230	126	99	2	3	-	-	-	M 20.10	135	61	34	59	1502/165	92	24	29	3	8	74	-	-	-	-	-	-	-	-
averages	979	23.25	19.17	10.5	8.25						52.28	1125	5.08	2.83	4.92	9.10														

	not com.	com.	crit/com		ed.etc.	ref.	neg.cit.	peripheral
1	5	2	1	1	2	-	-	4
2	2	10	2	2	5	1	-	4
3	6	4	2	1	4	4	-	-
4	37	8	2	2	37	-	-	6
5	1	10	5	5	1	2	-	3
6	5	-	-	-	5	-	-	-
7	-	9	4	4	4	1	-	-
8	4	8	4	3	8	-	-	-
9	2	6	6	6	2	-	-	-
10	4	8	6	5	6	-	-	-
11	7	14	9	8	2	6	-	4
12	22	56	37	25	2	10	-	29
13								
14								
15								
16								
17								
18								
totals	95	135	78	62	78	24	-	50
averages	7.92	11.25	6.5	5.17	6.5	2		4.17
		%	33.91		33.91	1043		21.74

total criticism	criticism retrieved	percentage
78	62	79.49
complete citations	criticism retrieved	percentage
135	62	45.93
total citations	complete citations	percentage
230	135	58.70

notes

citations/page 1.96
invisible citations 3/0/0 = 3

article	pp.	notes	ref	bk	art	diss	ms	jnl	ppr	per	aver. age	com	inc	spl	pages x 0;	/	language E	F	G	I	S	R	P	Dt	L	He	Dn	Gk	LG	N
MIR/72/4/1	8.5	13	14	10	4	-	-	-	-	-	17.79	14	-	-	4	123/10	14	-	-	-	-	-	-	-	-	-	-	-	-	-
2	11.5	50	56	36	20	-	-	-	-	-	36.13	50	2	4	7	383/41	50	2	1	-	-	-	-	-	3	-	-	-	-	-
3	2.5	14	12	9	3	-	-	-	-	-	33.08	10	-	2	2	58/9	12	-	-	-	-	-	-	-	-	-	-	-	-	-
4	6.5	6	6	4	2	-	-	-	-	-	18.33	4	1	1	1	30/5	6	-	-	-	-	-	-	-	-	-	-	-	-	-
5	3.5	4	3	3	-	-	-	-	-	-	125.67	1	-	2	-	4/2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
6	7	4	4	3	1	-	-	-	-	-	21.25	2	-	2	-	28/4	4	-	-	-	-	-	-	-	-	-	-	-	-	-
7	11.5	6	5	3	1	1	-	-	-	-	21.8	1	-	4	2	14/3	3	2	-	-	-	-	-	-	-	-	-	-	-	-
8	11.5	11	4	4	-	-	-	-	-	-	12.25	3	-	1	-	4/4	-	4	-	-	-	-	-	-	-	-	-	-	-	-
9	11.5	9	7	6	1	-	-	-	-	-	9.14	7	-	-	-	22/7	3	4	-	-	-	-	-	-	-	-	-	-	-	-
10	10.5	5	6	5	1	-	-	-	-	-	27.17	4	-	2	3	10/3	1	5	-	-	-	-	-	-	-	-	-	-	-	-
11	9.5	12	11	6	5	-	-	-	-	-	14.09	7	-	4	2	44/9	9	-	-	-	2	-	-	-	-	-	-	-	-	-
12	24.5	89	16	11	3	1	-	-	-	1	32.36	11	5	-	2	60/10	2	4	10	-	-	-	-	-	-	-	-	-	-	-
13	12.5	15	12	8	4	-	-	-	-	-	21.75	9	3	-	8	54/4	2	-	1	-	-	7	2	-	-	-	-	-	-	-
14																														
15																														
16																														
17																														
18																														
totals	131	238	156	108	45	2	-	-	-	-	M 21.75	123	11	22	31	834/111	109	21	12	-	2	7	2	-	3	-	-	-	-	-
averages	10.08	18.31	12	8.31	3.46						30.06	9.46	.85	1.69	2.38	7.51														

	not com.	com.	crit/com		ed.etc.	ref.	neg.cit.	peripheral
1	-	14	8	8	2	3	-	1
2	6	50	21	19	2	27	-	6
3	2	10	2	2	5	1	1	3
4	2	4	4	2	2	-	-	-
5	2	1	-	-	1	2	-	-
6	2	2	2	-	2	-	-	-
7	4	1	4	-	1	-	-	-
8	1	3	3	2	1	-	-	-
9	-	7	6	6	1	-	-	-
10	2	4	2	1	4	-	-	-
11	4	7	3	2	4	1	-	3
12	5	11	11	10	2	1	-	2
13	3	9	3	-	2	6	-	1
14								
15								
16								
17								
18								
totals	33	123	69	52	29	41	1	16
averages	2.54	9.46	5.31	4	2.23	3.15		1.23

total criticism	criticism retrieved	percentage
69	52	75.36
complete citations	criticism retrieved	percentage
123	52	42.28
total citations	complete citations	percentage
156	123	78.85

notes

citations/page 1.19
invisible citations 0/C/0

article	pp.	notes	ref	bk	art	diss	ms	jnl	ppr	per	age	com.	inc	spl
LR/73/1/1	12.5	29	25	22	3	-	-	-	-	-	35.13	14	2	9
2	7.5	10	15	11	3	1	-	-	-	-	33.47	12	3	-
3	5.5	25	16	15	1	-	-	-	-	-	114.69	10	5	1
4	11.5	36	17	15	2	-	-	-	-	-	43.69	14	2	-
5	10.5	2	2	1	1	-	-	-	-	-	34	2	-	-
6	17.5	49	17	15	2	-	-	-	-	-	28.06	13	2	2
7	7.5	19	12	6	6	-	-	-	-	-	35.33	10	2	-
8	6.5	5	6	6	-	-	-	-	-	-	15.67	6	-	-
9	9.5	25	15	7	8	-	-	-	-	-	9.4	11	-	4
10	10.5	9	10	7	2	1	-	-	-	-	14	10	-	-
11	9.5	32	25	20	2	3	-	-	-	-	47.28	23	-	2
12	13.5	52	36	22	11	3	-	-	-	-	139.86	27	6	3
13														
14														
15														
16														
17														
18														
totals	122	293	196	147	41	8	-	-	-	-	M34.56	152	22	21
averages	10.17	24.42	16.33	12.25	3.42	.67					45.88	12.67	1.83	1.75

article	x O;	/	E	F	G	I	S	R	P	Dt	D	[illegible]	Dn	Gk	LC	N
LR/73/1/1	10	157/15	25	-	-	-	-	-	-	-	-	-	-	-	-	-
2	6	87/9	15	-	-	-	-	-	-	-	-	-	-	-	-	-
3	12	99/4	8	-	8	-	-	-	-	-	-	-	-	-	-	-
4	2	62/13	7	10	-	-	-	-	-	-	-	-	-	-	-	-
5	1	46/1	-	2	-	-	-	-	-	-	-	-	-	-	-	-
6	6	45/9	9	8	-	-	-	-	-	-	-	-	-	-	-	-
7	2	10/10	3	9	-	-	-	-	-	-	-	-	-	-	-	-
8	2	3/3	2	1	-	3	-	-	-	-	-	-	-	-	-	-
9	3	34/12	6	-	-	-	9	-	-	-	-	-	-	-	-	-
10	2	29/7	2	1	-	-	7	-	-	-	-	-	-	-	-	-
11	12	138/13	3	1	21	-	-	-	-	-	-	-	-	-	-	-
12	2	83/33	17	-	19	-	-	-	-	-	-	-	-	-	-	-
13																
14																
15																
16																
17																
18																
totals	60	793/129	97	32	48	3	16	-	-	-	-	-	-	-	-	-
averages	5	6.15														

	not com.	com.	crit/com		ed.etc.	ref.	neg.cit.	peripheral
1	11	14	10	4	6	5	-	4
2	3	12	9	9	6	-	-	-
3	6	10	1	1	4	2	-	9
4	2	14	4	4	3	6	-	4
5	-	2	1	1	1	-	-	-
6	4	13	10	8	6	-	1	-
7	2	10	3	3	6	1	-	2
8	-	6	4	4	-	1	-	1
9	4	11	14	10	1	-	-	-
10	-	10	6	6	2	1	-	1
11	2	23	13	13	6	3	-	3
12	9	27	23	19	6	3	-	4
13								
14								
15								
16								
17								
18								
totals	43	152	98	82	47	22	1	28
averages	3.58	12.67	8.17	6.83	3.92	1.83		2.33
		%	50		23.98	11.22	.51	14.29

total criticism	criticism retrieved	percentage
98	82	83.67
complete citations	criticism retrieved	percentage
152	82	53.95
total citations	complete citations	percentage
196	152	77.55

notes

citations/page	1.61
invisible citations	0/1/3 = 4

article	pp.	notes	ref	bk	art	diss	ms	jnl	ppr	per	aver. age	com	inc	spl	pages x 0;	/	E	F	G	I	S	R	P	Dt	L	He	Dn	Gk	LG	N
MLR/732/1	14.5	20	18	13	5	-	-	-	-	-	29.56	11	2	5	7	211/11	17	-	1	-	-	-	-	-	-	-	-	-	-	-
2	3.5	12	13	7	6	-	-	-	-	-	17.92	8	5	-	3	142/10	12	-	1	-	-	-	-	-	-	-	-	-	-	-
3	3.5	7	7	6	1	-	-	-	-	-	19.43	4	-	3	1	18/6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
4	3.5	8	6	5	-	-	1	-	-	-	40.5	3	2	1	4	6/2	6	-	-	-	-	-	-	-	-	-	-	-	-	-
5	15	22	21	18	3	-	-	-	-	-	34.9	18	1	2	7	45/13	21	-	-	-	-	-	-	-	-	-	-	-	-	-
6	8.5	11	11	8	3	-	-	-	-	-	46.55	8	-	3	5	21/6	4	6	1	-	-	-	-	-	-	-	-	-	-	-
7	16.5	8	6	6	-	-	-	-	-	-	21.5	5	1	-	2	5/4	3	3	-	-	-	-	-	-	-	-	-	-	-	-
8	5.5	7	6	6	-	-	-	-	-	-	34.5	4	2	-	2	79/4	1	4	-	1	-	-	-	-	-	-	-	-	-	-
9	17.5	21	12	10	2	-	-	-	-	-	11.83	12	-	-	1	44/10	3	9	-	-	-	-	-	-	-	-	-	-	-	-
10	10.5	13	11	10	1	-	-	-	-	-	8.64	6	3	2	3	105/8	2	-	-	9	-	-	-	-	-	-	-	-	-	-
11	13.5	41	27	26	1	-	-	-	-	-	87.73	20	2	5	9	88/13	6	-	-	-	21	-	-	-	-	-	-	-	-	-
12	8.5	26	10	7	3	-	-	-	-	-	17.	5	4	1	3	4/4	5	-	5	-	-	-	-	-	-	-	-	-	-	-
13	12.5	31	15	14	1	-	-	-	-	-	22.67	10	-	5	-	82/15	4	-	11	-	-	-	-	-	-	-	-	-	-	-
14																														
15																														
16																														
17																														
18																														
totals	133	227	163	136	26	-	1	-	-	-	M22.67	114	22	27	47	850/106	91	22	19	10	21	-	-	-	-	-	-	-	-	-
averages	10.23	17.46	12.54	10.46	2						30.21	8.77	1.69	2.08	3.62	8.02														

	not com.	com.	crit/com		ed.etc.	ref.	neg.cit.	peripheral
1	7	11	11	8	7	-	-	-
2	5	8	9	8	3	1	-	-
3	3	4	6	3	1	-	-	-
4	3	3	-	-	1	3	-	2
5	3	18	4	4	5	8	-	4
6	3	8	3	-	1	7	-	-
7	1	5	3	3	1	-	-	2
8	2	4	2	2	4	-	-	-
9	-	12	7	7	3	-	1	1
10	5	6	8	5	2	-	-	1
11	7	20	2	1	6	11	-	8
12	5	5	5	5	2	3	-	-
13	5	10	13	8	-	-	-	2
14								
15								
16								
17								
18								
totals	49	114	73	54	36	33	1	20
averages	3.77	8.77	5.62	4.15	2.77	2.54		1.54
		%	44.79		22.09	20.25	.61	12.27

total criticism	criticism retrieved	percentage
73	54	73.97
complete citations	criticism retrieved	percentage
163	54	33.13
total citations	complete citations	percentage
163	114	69.94

notes

citations/page 1.33
invisible citations 6/0/0 = 6

article	pp.	notes	ref	bk	art	diss	ms	jnl	ppr	per	aver. age	com	inc	spl	pages x 0;	/	language													
																	E	F	G	I	S	R	P	Dt	L	He	Dn	Gk	LG	N
MLR/73/3/1	13	38	41	33	8	-	-	-	-	-	117.78	30	4	7	13	201/26	41	-	-	-	-	-	-	-	-	-	-	-	-	-
2	13	51	60	43	17	-	-	-	-	-	141.18	50	8	2	7	198/50	58	-	2	-	-	-	-	-	-	-	-	-	-	-
3	13.5	9	5	5	-	-	-	-	-	-	17.2	3	1	1	-	5/5	5	-	-	-	-	-	-	-	-	-	-	-	-	-
4	8.5	3	4	1	3	-	-	-	-	-	33.25	2	2	-	2	5/2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
5	14.5	22	37	30	7	-	-	-	-	-	166.	27	3	7	19	186/13	3	22	2	6	-	-	-	-	4	-	-	-	-	-
6	5.5	15	11	1	9	-	1	-	-	-	75.2	3	8	-	1	129/9	1	10	-	-	-	-	-	-	-	-	-	-	-	-
7	7.5	4	5	4	1	-	-	-	-	-	15	5	-	-	1	11/2	-	5	-	-	-	-	-	-	-	-	-	-	-	-
8	9.5	8	15	13	2	-	-	-	-	-	43.67	13	2	-	6	98/9	5	1	-	-	9	-	-	-	-	-	-	-	-	-
9	7.5	19	21	19	2	-	-	-	-	-	79.95	20	1	-	7	17/10	3	2	16	-	-	-	-	-	-	-	-	-	-	-
10	15.5	12	9	6	3	-	-	-	-	-	17.44	9	-	-	-	72/9	3	-	6	-	-	-	-	-	-	-	-	-	-	-
11	13.5	22	26	18	8	-	-	-	-	-	15.23	24	1	1	7	246/18	24	-	-	-	-	-	-	-	-	-	-	-	-	2
12	11.5	16	11	9	2	-	-	-	-	-	8.09	10	1	-	1	11/10	6	-	-	-	-	5	-	-	-	-	-	-	-	-
13																														
14																														
15																														
16																														
17																														
18																														
totals	133	219	245	182	62	-	1	-	-	-	[illegible]38.46	196	31	18	64	1179/163	153	40	26	6	9	5	-	-	4	-	-	-	-	2
averages	11.08	18.25	18.85	14	4.77						60.83	16.33	2.58	1.5	5.33	7.23														

	not com.	com.	crit/com		ed.etc.	ref.	neg.cit.	peripheral
1	11	30	17	12	10	1	-	13
2	10	50	16	15	12	22	-	10
3	2	3	2	1	3	-	-	-
4	2	2	2	-	-	1	-	1
5	10	27	10	10	9	10	-	8
6	8	3	1	1	10	-	-	-
7	-	5	4	4	1	-	-	-
8	2	13	11	11	4	-	-	-
9	1	20	9	9	3	7	-	2
10	-	9	8	8	1	-	-	-
11	2	24	15	14	3	8	-	-
12	1	10	8	7	3	-	-	-
13								
14								
15								
16								
17								
18								
totals	49	196	103	92	59	49	-	34
averages	4.08	16.33	8.58	7.67	4.92	4.08		2.83

128 % 42.04 24.08 20 13.88

total criticism	criticism retrieved	percentage
103	92	89.32
complete citations	criticism retrieved	percentage
196	92	46.94
total citations	complete citations	percentage
245	196	80.-

notes

citations/page 1.84
invisible citations 0/0/0

103

article	pp.	notes	ref	bk	art	diss	ms	jnl	ppr	per	aver. age	com	inc	spl	pages x 0;	/	language													
																	E	F	G	I	S	R	P	Dt	L	He	Dn	Gk	LG	N
MLR/73/4/1	12.5	21	17	8	9	-	-	-	-	-	19.65	8	1	8	2	133/15	17	-	-	-	-	-	-	-	-	-	-	-	-	-
2	6.5	23	14	11	3	-	-	-	-	-	41.5	4	3	7	2	47/12	14	-	-	-	-	-	-	-	-	-	-	-	-	-
3	8.5	14	10	10	-	-	-	-	-	-	25.8	10	-	-	-	10/10	10	-	-	-	-	-	-	-	-	-	-	-	-	-
4	5.5	1	1	1	-	-	-	-	-	-	21	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
5	6	19	7	6	1	-	-	-	-	-	232.5	4	1	2	3	26/3	-	4	-	-	-	-	-	-	3	-	-	-	-	-
6	8.5	16	6	3	2	1	-	-	-	-	10.5	5	1	-	1	41/5	1	5	-	-	-	-	-	-	-	-	-	-	-	-
7	3.5	2	1	1	-	-	-	-	-	-	11	1	-	-	-	1/1	-	1	-	-	-	-	-	-	-	-	-	-	-	-
8	11.5	22	35	26	8	1	-	-	-	-	20.8	32	3	-	16	193/19	14	20	-	1	-	-	-	-	-	-	-	-	-	-
9	7.5	9	6	4	2	-	-	-	-	-	9.33	2	-	4	-	137/6	-	-	-	6	-	-	-	-	-	-	-	-	-	-
10	10.5	44	13	9	1	-	3	-	-	-	104.9	11	2	-	7	6/5	2	2	-	-	5	-	-	-	4	-	-	-	-	-
11	12.5	17	19	14	5	-	-	-	-	-	11	16	1	2	6	103/9	12	-	-	-	7	-	-	-	-	-	-	-	-	-
12	18.5	70	33	24	8	-	-	-	-	1	25.94	27	1	5	6	36/14	11	1	16	-	-	5	-	-	-	-	-	-	-	-
13	3.5	7	5	4	1	-	-	-	-	-	11.6	4	-	1	3	9/2	-	-	5	-	-	-	-	-	-	-	-	-	-	-
14	19.5	77	86	59	26	-	1	-	-	-	123.11	69	4	13	10	382/65	9	4	53	-	-	-	-	4	16	-	-	-	-	-
15	6.5	16	13	10	3	-	-	-	-	-	30.69	4	2	7	1	26/12	7	-	6	-	-	-	-	-	-	-	-	-	-	-
16	12.5	35	23	19	4	-	-	-	-	-	30.91	23	-	-	-	144/23	3	-	-	-	-	20	-	-	-	-	-	-	-	-
17																														
18																														
totals	153.5	393	289	209	73	2	4	-	-	1	M23.4	220	20	49	57	1194/201	101	37	80	7	12	25	-	4	23	-	-	-	-	-
averages	9.59	24.56	18.06	13.06	4.56						45.64	13.75	1.25	3.06	3.56	5.94														

	not com.	com.	crit/com		ed.etc.	ref.	neg.cit.	peripheral
1	9	8	11	6	3	2	-	1
2	10	4	5	3	7	1	-	1
3	-	10	-	-	-	9	-	1
4	1	-	-	-	1	-	-	-
5	3	4	-	-	4	3	-	-
6	1	5	4	4	1	-	-	-
7	-	1	1	1	-	-	-	1
8	3	32	30	27	-	2	-	-
9	4	2	4	2	2	-	-	3
10	2	11	6	5	4	2	-	-
11	3	16	9	9	3	1	-	1
12	6	27	11	7	5	12	1	6
13	1	4	2	2	3	-	-	4
14	17	69	33	30	4	39	-	-
15	9	4	2	1	6	-	-	10
16	-	23	20	20	1	2	-	5
17							-	-
18								
totals	69	220	138	117	44	73	1	33
averages	4.31	13.75	8.63	7.31	2.75	4.56		2.06
		%	47.75		15.22	25.29	.35	11.42

total criticism	criticism retrieved	percentage
138	117	84.78
complete citations	criticism retrieved	percentage
220	117	53.18
total citations	complete citations	percentage
289	220	76.12

notes

citations/page 1.88
invisible citations 0/11/3/0 = 14

article	pp.	notes	ref	bk	art	diss	ms	jnl	ppr	per	aver. age	com	inc	spl	pages x 0;	/	E	F	G	I	S	R	P	Dt	L	He	Dn	Gk	LG	N
UMLA/35/1	10	4	4	2	2	-	-	-	-	-	27.25	4	-	-	-	28/4	-	-	4	-	-	-	-	-	-	-	-	-	-	-
2	13.5	12	8	8	-	-	-	-	-	-	42.13	7	1	-	3	3/3	-	-	8	-	-	-	-	-	-	-	-	-	-	-
3	13.5	9	1	1	-	-	-	-	-	-	52	1	-	-	-	1/1	-	1	-	-	-	-	-	-	-	-	-	-	-	-
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														
13																														
14																														
15																														
16																														
17																														
18																														
totals	37	25	13	11	2	-	-	-	-	-	M27.25	12	1	-	3	32/8	-	1	12	-	-	-	-	-	-	-	-	-	-	-
averages	12.33	8.33	4.33	367							40.46	4	.33	-	1	4														

	not com.	com.	crit/com		ed.etc.	ref.	neg.cit.	peripheral
1	-	4	1	1	-	2	-	1
2	1	7	2	2	5	1	-	-
3	-	1	-	-	1	-	-	-
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
totals	1	12	3	3	6	3	-	1
averages	.33	4	1	1	2	1	-	.33
		%	23.08		46.15	23.08		7.69

total criticism	criticism retrieved	percentage
3	3	100
complete citations	criticism retrieved	percentage
12	3	25
total citations	complete citations	percentage
13	12	92.31

notes

citations/page	.35
invisible citations	

article	pp.	notes	ref	bk	art	diss	ms	jnl	ppr	per	average	com	inc	spl
AUMLA/36/1	7.5	21	9	8	-	-	1	-	-	-	34.13	-	4	5
2	11.5	26	9	4	-	-	1	4	-	-	69	4	5	-
3	9.5	32	11	10	1	-	-	-	-	-	81.3	11	-	-
4	14	58	37	25	12	-	-	-	-	-	3431	28	5	4
5	4.5	6	5	4	1	-	-	-	-	-	3625	4	1	-
6	3.5	-	-	-	-	-	-	-	-	-	-	-	-	-
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
totals	50.5	143	71	51	14	-	2	4	-	-	M 36.25	47	15	9
averages	8.42	23.83	11.83	8.5	2.33	-					51	7.83	2.5	1.5

article	pages x 0;	/	language E	F	G	I	S	R	P	Dt	L	[illegible]	Dn	Gk	LG	N
AUMLA/36/1	7	4/2	-	9	-	-	-	-	-	-	-	-	-	-	-	-
2	8	1/1	9	-	-	-	-	-	-	-	-	-	-	-	-	-
3	4	40/6	2	1	8	-	-	-	-	-	-	-	-	-	-	-
4	5	98/29	37	-	-	-	-	-	-	-	-	-	-	-	-	-
5	2	3/2	1	4	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7																
8																
9																
10																
11																
12																
13																
14																
15																
16																
17																
18																
totals	26	146/40	49	14	8	-	-	-	-	-	-	-	-	-	-	-
averages	4.33	3.65														

	not com.	com.	crit/com		ed.etc.	ref.	neg.cit.	peripheral
1	9	-	-	-	4	1	-	4
2	5	4	3	3	-	6	-	-
3	-	11	2	2	1	8	-	-
4	9	28	23	16	6	8	-	-
5	1	4	2	2	2	-	-	1
6	-	-	-	-	-	-	-	-
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
totals	24	47	30	23	13	23	-	5
averages	4	7.83	5	3.83	2.17	3.83	-	.83
		%	42.25		18.31	32.39		7.04

total criticism	criticism retrieved	percentage
30	23	76.67
complete citations	criticism retrieved	percentage
47	23	48.94
total citations	complete citations	percentage
71	47	66.2

	notes
citations/page	1.41
invisible citations	

article	pp.	notes	ref	bk	art	diss	ms	jnl	ppr	per	aver age	com	inc	spl	pages x O;	/	E	F	G	I	S	R	P	Dt	L	[illegible]	Dn	Gk	LG	N
AUMLA/37/1	12.5	23	48	40	6	2	-	-	-	-	82.13	34	10	4	16	237/27	39	1	5	-	-	-	-	-	3	-	-	-	-	-
2	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	19.5	18	57	52	5	-	-	-	-	-	39.88	23	34	-	34	226/21	6	46	5	-	-	-	-	-	-	-	-	-	-	-
4	15.5	29	10	8	-	-	-	2	-	-	36.25	6	4	-	10	-	4	-	5	-	-	1	-	-	-	-	-	-	-	-
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														
13																														
14																														
15																														
16																														
17																														
18																														
totals	66.5	70	115	100	11	2	-	2	-	-	M39.88	63	48	4	60	463/48	49	47	15	-	-	1	-	-	3	-	-	-	-	-
averages	16.63	17.5	28.75	25	2.75	.5	-	.5			52.75	15.75	12	1	15	9.65														

	not com.	com.	crit/com		ed.etc.	ref.	neg.cit.	peripheral
1	14	34	13	11	7	26	-	2
2	-	-	-	-	-	-	-	-
3	34	23	10	9	-	44	-	3
4	4	6	-	-	-	-	2	8
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
totals	52	63	23	20	7	70	2	13
averages	13	15.75	5.75	5	1.75	17.5	.5	3.25
		%	20		6.09	60.87	1.74	11.3

total criticism	criticism retrieved	percentage
23	20	86.96
complete citations	criticism retrieved	percentage
63	20	31.75
total citations	complete citations	percentage
115	63	54.78

notes

citations/page	1.73
invisible citations	

article	pp.	notes	ref	bk	art	diss	ms	jnl	ppr	per	aver. age	com	inc	spl	pages x 0;	/	language													
																	E	F	G	I	S	R	P	Dt	L	He	Dn	Gk	LG	N
AUMLA/38/1	5.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-/-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	15.5	23	22	19	3	-	-	-	-	-	55.23	22	-	-	1	15/13	3	-	18	-	-	-	-	-	1	-	-	-	-	-
3	17.5	47	29	26	2	1	-	-	-	-	50.2	23	6	-	13	107/15	24	2	-	1	-	-	-	-	2	-	-	-	-	-
4	19.5	30	27	22	3	-	-	1	-	1	17.35	10	15	2	15	43/11	3	24	-	-	-	-	-	-	-	-	-	-	-	-
5	6.5	3	4	2	2	-	-	-	-	-	9.25	3	1	-	1	63/3	1	1	2	-	-	-	-	-	-	-	-	-	-	-
6																														
7																														
8																														
9																														
10																														
11																														
12																														
13																														
14																														
15																														
16																														
17																														
18																														
totals	64.5	103	82	69	10	1	-	1	-	1	M33.78	58	22	2	30	228/42	31	27	20	1	-	-	-	-	3	-	-	-	-	-
averages	12.9	20.6	16.4	13.8	2	.2	-	.2	-	.2	33.01	11.6	4.4	.4	6	5.43														

	not com.	com.	crit/com		ed.etc.	ref.	neg.cit.	peripheral
1	-	-	-	-	-	-	-	-
2	-	22	9	9	6	1	3	3
3	6	23	8	8	7	13	-	1
4	17	10	6	6	13	8	-	-
5	1	3	3	3	1	-	-	-
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
totals	24	58	26	26	27	22	3	4
averages	4.8	11.6	5.2	5.2	5.4	4.4	.6	.8
		%	31.71		32.93	26.83	3.66	4.88

total criticism	criticism retrieved	percentage
26	26	100
complete citations	criticism retrieved	percentage
58	26	44.83
total citations	complete citations	percentage
82	58	70.73

	notes
citations/page	1.27
invisible citations	

article	pp.	notes	ref	bk	art	diss	ms	jnl	ppr	per	aver. age	com	inc	spl
AUMLA 39/1	16.5	9	7	7	-	-	-	-	-	-	26.14	1	5	1
2	12.5	-	17	17	-	-	-	-	-	-	37.67	15	2	-
3	15.5	30	10	10	-	-	-	-	-	-	37.56	7	2	1
4	10	8	-	-	-	-	-	-	-	-	-	-	-	-
5	24	56	24	17	6	-	-	1	-	-	10	20	4	-
6	8.5	36	20	18	1	-	1	-	-	-	47.94	16	4	-
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
totals	87	139	78	69	7	-	1	1	-	-	M37.67	59	17	2
averages	14.5	23.17	13	11.5	1.17	-	.17	.17	-	-	69.86	9.83	2.83	.33

article	pages x 0;	/	language E	F	G	I	S	R	P	Dt	L	He	Dn	Gk	LG	N
AUMLA 39/1	7	-/-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
2	17	-/-	-	8	-	9	-	-	-	-	-	-	-	-	-	-
3	-	13/10	3	2	5	-	-	-	-	-	-	-	-	-	-	-
4	-	-/-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	6	82/17	-	24	-	-	-	-	-	-	-	-	-	-	-	-
6	7	67/13	-	1	-	-	-	19	-	-	-	-	-	-	-	-
7																
8																
9																
10																
11																
12																
13																
14																
15																
16																
17																
18																
totals	37	162/40	3	39	5	9	-	19	-	-	3	-	-	-	-	-
averages	6.17	4.05														

	not com.	com.	crit/com		ed.etc.	ref.	neg.cit.	peripheral
1	6	1	1	1	1	5	-	-
2	2	15	4	4	4	9	-	-
3	3	7	3	3	2	1	-	4
4	-	-	-	-	-	-	-	-
5	4	20	21	18	1	1	-	1
6	4	16	4	4	2	14	-	-
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
totals	19	59	33	30	10	30	-	5
averages	3.17	9.83	5.5	5	1.67	5	-	.83
%			42.31		12.82	38.46		6.41

total criticism	criticism retrieved	percentage
33	30	90.91
complete citations	criticism retrieved	percentage
59	30	50.85
total citations	complete citations	percentage
78	59	75.64

notes

citations/page .9
invisible citations

article	pp.	notes	ref	bk	art	diss	ms	jnl	ppr	per	aver. age	com	inc	spl
AUMLA 40/1	15	21	15	15	-	-	-	-	-	-	19.67	14	1	-
2	12.5	18	40	35	4	1	-	-	-	-	13.3	33	-	7
3	7.5	11	13	11	2	-	-	-	-	-	4.08	13	-	-
4	21	22	19	18	1	-	-	-	-	-	22.61	13	5	1
5	5.5	-	-	-	-	-	-	-	-	-	-	-	-	-
6	3	4	4	4	-	-	-	-	-	-	9	1	3	-
7	10.5	18	8	6	2	-	-	-	-	-	27.25	6	2	-
8	10.5	27	20	13	3	-	4	-	-	-	46.4	8	9	3
9	12.5	9	5	5	-	-	-	-	-	-	26.2	2	-	3
10														
11														
12														
13														
14														
15														
16														
17														
18														
totals	98	130	124	107	12	1	4	-	-	-	M 21.64	90	20	14
averages	10.89	14.44	13.78	11.89	1.33						21.06	10	2.22	1.56

article	pages x 0;	/	E	F	G	I	S	R	P	Dt	L	He	Dn.	Gk	LG	N
AUMLA 40/1	4	90/11	15	-	-	-	-	-	-	-	-	-	-	-	-	-
2	22	93/16	11	29	-	-	-	-	-	-	-	-	-	-	-	-
3	5	176/8	8	-	5	-	-	-	-	-	-	-	-	-	-	-
4	4	16/15	4	4	5	6	-	-	-	-	-	-	-	-	-	-
5	-	-/-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	2	-/-	1	2	-	1	-	-	-	-	-	-	-	-	-	-
7	1	27/7	5	2	1	-	-	-	-	-	-	-	-	-	-	-
8	4	62/15	-	19	-	-	-	-	-	-	-	-	1	-	-	-
9	3	5/2	5	-	-	-	-	-	-	-	-	-	-	-	-	-
10																
11																
12																
13																
14																
15																
16																
17																
18																
totals	45	469/74	49	56	11	7	-	-	-	-	-	-	1	-	-	-
averages	5	6.34														

	not com.	com.	crit/com		ed.etc.	ref.	neg.cit.	peripheral
1	1	14	6	6	4	4	-	1
2	7	33	5	5	15	10	-	10
3	-	13	4	4	-	7	-	2
4	6	13	1	1	10	6	-	2
5	-	-	-	-	-	-	-	-
6	3	1	1	-	2	1	-	-
7	2	6	5	4	3	-	-	-
8	12	8	3	-	13	2	-	2
9	3	2	1	-	1	2	-	1
10								
11								
12								
13								
14								
15								
16								
17								
18								
totals	34	90	26	20	48	32	-	18
averages	3.78	10	2.89	2.22	5.33	3.56		2
%			20.97		38.71	25.81		14.52

total criticism	criticism retrieved	percentage
26	20	76.92
complete citations	criticism retrieved	percentage
90	20	22.22
total citations	complete citations	percentage
124	90	72.58

notes

citations/page 1.27
invisible citations

PMLA

		art.s	aver. pages	cit.s per p.	total cit.s	total cit.s retr.	= %	total rel. cit.s	rel cit.s retr.	= %	% of rel.cit.s in retr.
1971,	1	13	8.35	2.19	238	208	87.39	140	125	89.29	60.1
	2	9	8.78	2.42	191	161	84.29	128	114	89.06	70.81
	3	9	10.17	1.88	172	121	70.35	84	63	75	52.07
	4	10	8.5	1.91	162	132	81.48	83	72	86.75	54.55
1972,	1	10	8	2.39	191	115	60.21	67	44	65.67	38.94
	2	12	9.33	2.16	242	173	71.49	158	122	77.22	70.52
	3	15	8.33	1.78	223	160	71.75	107	85	79.44	53.13
	4	14	11.58	1.88	283	206	72.79	186	140	75.27	67.96
1973,	1	13	9.12	1.57	186	113	60.75	113	78	69.03	69.03
	2	12	9.58	2.03	233	156	66.95	129	98	75.97	62.82
	3	11	10.73	2.08	245	181	73.88	145	114	78.62	62.98
	4	14	11.46	2.19	351	266	75.78	149	122	81.88	45.86
averages 1971		10.25	8.88	2.1	190.75	155.5	81.52	108.75	93.5	85.98	60.13
1972		12.75	9.17	1.97	234.75	163.5	69.65	129.5	97.75	75.48	59.97
1973		12.5	10.24	1.98	253.75	179	70.54	134	103	76.87	57.54
averages overall		11.83	9.52	2.01	226.42	166	73.32	124.08	98.08	79.05	59.15

		books-articles-other			median av.age	languages													
						E	F	G	I	S	R	P	Dt	L	He	Dn	Gk	LG	N
1971,	1	173	59	6	20.59	155	39	30	1	9	3	–	–	1	–	–	–	–	–
	2	160	30	1	30.85	151	23	1	5	11	–	–	–	–	–	–	–	–	–
	3	129	37	6	20.95	146	21	5	–	–	–	–	–	–	–	–	–	–	–
	4	126	35	1	18.17	107	10	45	–	–	–	–	–	–	–	–	–	–	–
1972,	1	174	15	2	23.33	96	21	1	3	66	–	–	–	4	–	–	–	–	–
	2	164	69	9	25.66	168	18	51	–	–	–	–	–	5	–	–	–	–	–
	3	170	47	6	21.56	164	36	2	11	–	–	–	–	10	–	–	–	–	–
	4	215	64	4	21.25	153	37	45	–	44	4	–	–	–	–	–	–	–	–
1973,	1	138	45	3	19.78	129	50	7	–	–	–	–	–	–	–	–	–	–	–
	2	179	51	3	27.87	160	47	15	–	11	–	–	–	–	–	–	–	–	–
	3	160	83	2	17.78	160	67	7	1	9	–	–	–	1	–	–	–	–	–
	4	244	98	9	21.61	288	29	21	6	2	4	–	–	–	–	–	–	–	–
averages		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
1971		77.06	21.1	1.83	22.64	73.26	12.19	10.62	.79	2.62	.39	–	–	.13	–	–	–	–	–
1972		77.00	20.77	2.24	22.95	61.87	11.93	10.54	1.49	11.71	.43	–	–	2.02	–	–	–	–	–
1973		71.03	27.29	1.67	21.76	72.61	19.01	4.93	.69	2.17	.39	–	–	.1	.1	–	–	–	–
averages overall		74.75	23.33	1.91	M 21.56 21.25	69.08	14.65	8.47	.99	5.59	.4	–	–	.77	.04	–	–	–	–

Statistical summary by issue and year

MODERN LANGUAGE REVIEW

	art.s	aver. pages	cit.s per p.	total cit.s	total cit.s retr.	= %	total rel. cit.s	rel cit.s retr.	= %	% of rel.cit.s in retr.
1971, 1	14	10.89	2.12	323	267	82.66	187	171	91.44	64.04
2	16	8.22	1.9	250	201	80.4	104	92	88.46	45.77
3	15	10.8	1.64	266	217	81.58	91	80	87.91	36.87
4	13	8.77	1.82	208	151	72.6	74	62	83.78	41.06
1972, 1	12	12	1.31	189	144	76.19	73	61	83.56	42.36
2	13	11	1.46	209	179	85.65	102	95	93.14	53.07
3	12	9.79	1.96	230	135	58.7	78	62	79.49	45.93
4	13	10.08	1.19	156	123	78.85	69	52	75.36	42.28
1973, 1	12	10.17	1.61	196	152	77.55	98	82	83.67	53.95
2	13	10.23	1.33	163	114	69.94	73	54	73.97	47.37
3	12	11.08	1.84	245	196	80	103	92	89.32	46.94
4	16	9.59	1.88	289	220	76.12	138	117	84.78	53.18
averages 1971	14.5	9.66	1.87	261.75	209	79.85	114	101.25	88.82	48.44
1972	12.5	10.71	1.46	196	145.25	74.11	80.5	67.5	83.85	46.47
1973	13.25	10.22	1.65	223.25	170.5	76.37	103	86.25	83.74	50.59
averages overall	13.42	10.17	1.66	227	174.92	77.06	99.17	85	85.71	48.59

	books-articles-other			median av.age	languages E	F	G	I	S	R	P	Dt	L	He	Dn	Gk	LG	N
1971, 1	225	94	4	24.6	111	75	25	1	10	67	-	27	6	-	1	-	-	-
2	194	54	2	28.44	132	31	20	1	9	34	-	7	16	-	-	-	-	-
3	222	39	5	35.15	91	61	47	23	34	1	-	-	6	1	-	2	-	-
4	148	51	9	27.33	80	53	67	-	-	5	-	-	3	-	-	-	-	-
1972, 1	142	42	5	35.6	73	27	54	26	7	1	-	-	1	-	-	-	-	-
2	150	53	6	35.42	101	15	64	6	15	-	-	-	7	-	-	-	1	-
3	126	99	5	20.10	92	24	29	3	8	74	-	-	-	-	-	-	-	-
4	108	45	3	21.75	109	21	12	-	2	7	2	-	3	-	-	-	-	-
1973, 1	147	41	8	34.56	97	32	48	3	16	-	-	-	-	-	-	-	-	-
2	136	26	1	22.67	91	22	19	10	21	-	-	-	-	-	-	-	-	-
3	182	62	1	38.46	153	40	26	6	9	5	-	-	4	-	-	-	-	2
4	209	73	7	23.4	101	37	80	7	12	25	-	4	23	-	-	-	-	-
averages	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
1971	75.36	22.73	1.91	28.88	39.54	21.01	15.19	2.4	5.06	10.22	-	3.25	2.96	.1	.1	.2	-	-
1972	67.09	30.48	2.42	28.22	47.33	11.1	20.3	4.48	4.1	10.46	.25	-	1.4	-	-	-	.25	-
1973	75.48	22.62	1.90	29.77	49.50	14.67	19.37	2.9	6.49	3.36	-	.45	3.02	-	-	-	-	2
averages overall	73.02	24.93	2.06	M 28.44 27.33	45.2	16.1	18	3.2	5.3	8	.07	1.4	2.5	.04	.04	.07	.04	.07

Statistical summary by issue and year

AUMLA

	art.s	aver. pages	cit.s per p.	total cit.s	total cit.s retr.	= %	total rel. cit.s	rel cit.s retr.	= %	% of rel.cit.s in retr.
1971, 1	3 (5)	12.33	.35	13	12	92.31	3	3	100	25
2	6 (7)	8.42	1.41	71	47	66.2	30	23	76.67	48.94
3										
4										
1972, 1	4	16.63	1.73	115	63	54.78	23	20	86.96	31.75
2	5 (6)	12.9	1.27	82	58	70.73	26	26	100	44.83
3										
4										
1973, 1	6 (7)	14.5	.9	78	59	75.64	33	30	90.91	50.85
2	9	10.89	1.27	124	90	72.58	26	20	76.92	22.22
3										
4										
averages 1971	6	7.29	.96	42	29.5	70.24	16.5	13	78.79	44.07
1972	5	14.56	1.5	98.5	60.5	61.42	24.5	23	93.88	38.02
1973	8	12.33	1.09	101	74.5	73.76	29.5	25	84.75	33.56
averages overall	6.33*	10.62	1.2	80.5	54.83	68.12	23.5	20.33	81.88	37.08

	books-articles-other			median av.age	languages													
					E	F	G	I	S	R	P	Dt	L	He	Dn	Gk	LG	N
1971, 1	11	2	-	27.25	-	1	12											
2	51	14	6	36.25	49	14	8											
3																		
4																		
1972, 1	100	11	4	39.88	49	47	15			1			3					
2	69	10	3	33.78	31	27	20	1		-			3					
3																		
4																		
1973, 1	69	7	2	37.67	3	39	5	9		19			3					
2	107.	12	5	21.64	49	56	11	7		-			-		1			
3																		
4																		
averages	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
1971	73.81	19.05	7.14		58.33	17.86	23.81											
1972	85.79	10.66	3.55		40.61	37.56	17.77	.51		.51			3.05					
1973	87.13	9.41	3.47		25.74	47.03	7.92	7.92		9.41			1.49		.5			
averages overall	84.27	11.59	4.14	36.25 M 33.78	37.47	38.1	14.7	3.52		4.14			1.86		.21			

CONTENT

Journal	% criticism	% ed. etc.	% reference	% neg. cit.	% peripheral
PMLA 1971,1	58.82	18.07	17.65	2.52	2.94
2	67.02	14.66	12.04	.5	5.76
3	48.84	17.44	19.19	1.16	13.37
4	51.23	19.75	19.14	2.47	7.41
1972,1	35.08	22.51	39.79	-	-
2	65.29	16.12	14.46	.4	3.72
3	47.53	34.08	11.21	.45	6.73
4	65.72	18.37	12.01	-	3.89
1973,1	60.75	20.43	12.37	-	6.45
2	55.36	21.46	14.16	.43	8.58
3	59.18	8.98	13.06	.4	18.37
4	42.45	16.81	17.38	-	23.08
av. 1971	57.01	17.43	16.91	1.7	6.95
1972	55.06	23	18.1	.21	3.62
1973	52.81	16.65	14.68	.2	15.57
overall	54.77	19.03	16.49	.63	9.02
MLR 1971,1	57.89	10.53	18.89	.62	12.07
2	41.6	28.4	22	.8	6.4
3	34.21	34.96	18.42	-	12.41
4	35.58	24.52	25	-	14.9
1972,1	38.62	32.8	17.99	.53	10.05
2	48.8	22.97	23.92	.96	3.35
3	33.91	33.91	10.43	-	21.74
4	44.23	18.59	26.28	.64	10.26
1973,1	50	23.98	11.22	.51	14.29
2	44.79	22.09	20.25	.61	12.27
3	42.04	24.08	20	-	13.88
4	47.75	15.22	25.29	.35	11.42
av. 1971	43.55	23.78	20.73	.38	11.56
1972	41.07	27.68	19.01	.51	11.73
1973	46.14	20.83	19.82	.34	12.88
overall	43.69	23.94	19.93	.4	12.04
AUMLA 35	23.08	46.15	23.08	-	7.69
36	42.25	18.31	32.39	-	7.04
37	20	6.09	60.87	1.74	11.3
38	31.71	32.93	26.83	3.66	4.88
39	42.31	12.82	38.46	-	6.41
40	20.97	38.71	25.81	-	14.52
overall	29.19	22.98	37.27	1.04	9.52

Appendix 2

Sample article and data sheet

Morton W. Bloomfield, "The Man of Law's Tale: A Tragedy of Victimization and a Christian Comedy," PMLA, 87 (1972), 384-90

This article was selected because it is reasonably close to the "average" and contains a number of typical problems, without, however, the kind of major difficulty that would require extensive discussion. The numbered comments refer to the cited items noted marginally. Casual allusions not registered are underlined.

[*] This essay in an earlier form has been published in
1 Italian in *Strumenti critici*, 9 (June 1969), 195–207, and delivered in yet other forms at the English 3 meeting of the MLA Annual Convention, New York, 29 Dec. 1970, and at several universities.

[1] I first heard this term applied to these tales by Robert
2 W. Frank in a speech delivered at the MLA Annual Convention in Madison, Wis., 1957. Needless to say this category has no clear-cut limits. We could, for instance, add the Prioress' Tale to the list if we wish. Some pathetic tales are more pathetic than others and involve us emotionally more than the MLT does.

[2] We might perhaps make an exception for the Second Nun's Tale as a Saint's life; or somewhat of an exception for the Clerk's Tale as part of the marriage group—if we can accept the marriage group hypothesis. But the latter is still more than vaguely discomforting even as an example of wifely patience and as a tale in the mouth of the clerk.

Back of the MLT lies a variant of The Maiden without Hands folktale type (Aarne/Thompson, No. 706). But the folklorist antecedents of the tale are not my concern in this essay, in spite of the fact that they do help to explain some of the features of the present tale.

[3] Cf. the remark attributed to Charles Chaplin, "Comedy is life in long shot and tragedy, life in close-up." We are both I's and he's—tragic from our own perspective and comic to others. Cf. Brecht's suggestion that humor is a
3 "Distanzgefühl" (referred to in *TLS*, 8 Aug. 1968, p. 838).

There is some parallel here to the emotional effect of the grotesque. See Wolfgang Kayser, *Das Groteske: Seine*
4 *Gestaltung in Malerei und Dichtung* (Oldenburg: G. Stalling, 1957), trans. Ulrich Weisstein, *The Grotesque in Art and*
5 *Literature* (Bloomington: Indiana Univ. Press, 1963), and
6 Victor Erlich, "A Note on the Grotesque, Gogol: A Test Case," *To Honor Roman Jakobson: Essays on the Occasion of His Seventieth Birthday* (The Hague: Mouton, 1967), pp. 630–33.

[4] For Constance's apostrophes, see ll. 274–87; 451–62; 639–44; 813–19; 826–33; 841–54; 855–57; 858–61; (841–61 Constance first to Mary, then to her son, and finally to the Constable, all, incidentally, Chaucer's additions); 1105–13.

[5] A common Chaucerian gambit, the most famous example of which occurs in *Troilus* II.666–85 when the persona answers the objection that Criseyde certainly fell in love with Troilus quickly. For further examples, see *Troilus* III.491 ff., 1681 ff.; Knight's Tale, ll. 1881 ff.; Franklin's Tale, ll. 1493 ff., etc.

[6] Cf. the Yiddish folk figure of the *nebbish*.

[7] II, 7. See the interesting discussion of this tale in Stavros
7 Deligiorgis, "Boccaccio and the Greek Romances," *CL*, 19 (1967), 97 ff. This tale is closely related to the MLT in its spirit and organization in a mirror-image way; yet it would not be classified as belonging to its folktale type. Note Northrop Frye's definition of comedy: "normally an erotic intrigue blocked by some opposition and resolved by a twist in the plot known as 'discovery' or recognition";
8 "Comic Myth in Shakespeare," *Proceedings and Transactions of the Royal Society of Canada*, 46, 3rd Ser. (June 1952), Sec. 2. p. 55. On the role of inversion and mirror
9 image in myths, see the brilliant remarks of Claude Lévi-Strauss, *The Scope of Anthropology*, trans. Sherry Ortner Paul and Robert A. Paul, Cape Editions, I (London: Cape, 1967), 34–39.

There is possibly a direct analogue to our tale in *The Decameron* V, 2, about Gostanza, although not very close.
10 See Thomas H. McNeal, "Chaucer and the *Decameron*," *MLN*, 53 (1938), 257–58.

Miss Jeanne Krochalis points out to me the transformations of a similar victim theme in a large part of Chrétien de Troyes's *Erec et Enide* where Enide endures much after she and her husband leave the court until the end of the story with its celebration of joy at the earthly (as opposed to the heavenly) court. Here the concentration on Erec rather than Enide, the absence of a rhetoricizing persona, the downgrading of the persecution all give the tale a happy, earthly ending. But I suspect that there is a parody of the tragedy of the victim and saint's life lurking in the background of part of Chrétien's poem.

[8] On the characteristics of the classical romance and its
11 related genre, the aretalogy, see Rosa Söder, *Die apokryphen Apostelgeschichten und die romanhafte Literatur der Antike*, Würzburger Studien zur Altertumswissenschaft, III (Stuttgart: W. Kohlhammer, 1932).

12 [9] *The Greek Romance* (New York: Doubleday, 1953), Introd., pp. 7-8.

[10] Le cose tutte quante
Hanno ordine tra loro, e questo è forma
Che l'universo a Dio fa simigliante

Dante, *Paradiso* I.103–05

13 [11] See Robert T. Farrell, "Chaucer's Use of the Theme of the Help of God in the *Man of Law's Tale*," *NM*, 71 (1970), 239–43. Farrell has put his finger on an important aspect of the tale, related to saints' lives, but he uses the term "figura" (p. 243) in an unusual fashion to describe Constance's role in this theme.

[12] Omitting the pathetic tales already mentioned, the only other tales in *CT* which are stanzaic are Sir Thopas, where the metrical unit varies and is parodic, and Monk's Tale, which if not pathetic, certainly is linked to the contempt of the world tradition. *Troilus and Criseyde* seems to be an exception to this principle, but I now think the meter is another distancing device such as I discussed in my article "Distance and Predestination in *Troilus and Cri-*
14 *seyde*," *PMLA*, 72 (1957), 14–26. However, in *Troilus* Chaucer also brings us very close to the characters, whereas in MLT he never allows us to approach the emotional.

15 [13] "Periodic Syntax and Flexible Meter in the *Divina Commedia*," *Romance Philology*, 21 (1967–68), 17. I am in general indebted to Scaglione's insights for some of my metrical comments. To my colleague Professor Zeph Stewart I am indebted for the observation that the run-over effect is also more common in the *Aeneid* when emotion rises.

16 [14] Robinson edition, p. 691. See Robert Enzer Lewis,
17 "Chaucer's Artistic Use of Pope Innocent III's *De miseria humane conditionis* in the Man of Law's Prologue and Tale," *PMLA*, 81 (1966), 485–92. Lewis sees the use of Innocent's work mainly, though not entirely, in emphasizing the joy after woe and woe after joy theme, which certainly plays an important part in the tale.

[15] The prologue is largely concerned with an apostrophe to the hatefulness of poverty and thence by opposition passes to rich merchants as a kind of preparation for the merchants who appear in the first stanza of MLT. Most scholars have found the connection between the prologue and the tale only vaguely appropriate. I must say I do not see how the theory set forth in this article will enable us to solve this question.

18 Cf. John A. Yunck, "Religious Elements in Chaucer's *Man of Law's Tale*," *ELH*, 27 (1960), 250. Yunck sees the fundamentally religious quality of the tale (e.g., "God, then, in His providential care of His servants, is the protagonist of the Man of Law's Tale," p. 259) although I cannot fully understand why he calls it "A romantic homily." See above, n. 11.

1 Although the author can be derived from the personal reference no title is given. Such an item would normally fall under the heading of criticism but it has been assigned in this case to the peripheral category, since it is evident that the material is merely an earlier form of the present material and therefore of no significance.

2 An incomplete reference. Since the note speaks of the term being applied "to these tales," it is assumed that the paper will have been on the same topic.

3 The reference is to Brecht; however, the source cited is not Brecht but a place where Brecht is quoted. This "second-hand" source is incomplete inasmuch as neither author nor title is given.

4/5 These are the same work in the original and in English translation. They are quoted in order to provide a source for the discussion of the term grotesque and therefore are placed under reference.

6 An example of the grotesque is derived from Russian literature which moves the discussion too far away from Chaucer to be considered relevant; it has therefore been assigned to the peripheral category.

7 Reference to the text revealed that the tale referred to is a "mirror image" of the Chaucerian tale under discussion. Although this would not seem to relate it very closely to the topic under discussion, it has been (perhaps generously) assigned to the category of criticism.

8 This citation is in the continuation of the note which produced

item 7 and is a typical example of tangential reference. Moving from Chaucer to Boccaccio in the beginning of the note, the author now moves to a general discussion of comedy and exemplifies this from Shakespeare. This has therefore been considered only a peripheral citation.

9 The author now brings in the question of myths per se and cites in this connection the translation of a standard work on anthropology. This has therefore been listed under reference.

10 Still under note 7 the author returns to the Chaucer-Boccaccio relationship and cites a work which seems to be more closely related to his topic. This has therefore been included under criticism.

11 This is a typical example of the citation of background reference material.

12 Similar to item 11, but a split reference, since the author is cited only in the text. It should be noted that in the text the name of the author precedes a quotation at the end of which is the footnote number. One therefore has to look back several lines to find the author's name.

13 An evidently content-related citation.

14 A "self-citation." This has been assigned to the category of criticism as being possibly relevant.

15 Another split citation. In this case the citation has been assigned to criticism, even though the reference is to another literature. This (again perhaps generous) decision was based on the author's

statement of indebtedness. However, it should be noted, that the author introduces the topic of metrics only peripherally at the end of his essay.

16 This is a good example of a very confusing reference. The footnote simply says "Robinson edition, p. 691" and reference to the text reveals a quotation which is presumably derived from this Robinson edition. It would take some subject knowledge to determine whether or not the Robinson edition is an edition of Chaucer or an edition of Pope Innocent III, whose Contempt of the World is discussed in this paragraph. In any case Robinson is cited without initials.

17 This item was assigned without hesitation to the critical category.

18 This also could be assigned unhesitatingly to criticism.

Although 18 citations were derived from the 15 footnotes, there were other references in footnotes which might conceivably be considered as citations. These are the following:

Note 2: a brief identification of a reference source, in effect a classification number.

Note 3: a quotation attributed to Charles Chaplin with no reference as the source.

Note 5: a reference to other works of Chaucer.

Note 7: a reference to Boccaccio's Decameron, but no edition cited. In the same footnote, in the last paragraph, there is a discussion of a personal comment to the author regarding a work of Middle French literature (Chretien de Troyes).

Note 10: a quotation from Dante's Paradiso has not been included as a citation. If it had been, it would have been as an example of a "decorative" citation.

Note 13: another reference to personal information provided in regard to a similar phenomenon in the Aeneid.

In addition to these one should note that Pope Innocent III's De contemptu mundi is referred to in the text as a major source for Chaucer's work; there is however no reference to an edition of this (but see above the comment on item 16). Boccaccio's Decameron is also referred to in the text. It is unusual that no edition is cited of the work of the author under discussion.

Finally it should be noted that there is one reference to an Italian journal and one quotation in Italian; one German work is cited only in the original and a second is cited in the original and in translation. Of the 18 works recorded as citations, only the following (in order of precedence) would seem to be of any value to a potential index user using the citation method of locating material relevant to the topic discussed.

13, 17, 18; 14, 15; 7, 10

Journal	date	topic Eng. lit	language	pages	notes	citations	comments
PMLA	1972/3/2	(Chaucer)	English	6.5	15	18	

FORM						CONTENT				
ref. no.	publ. type	date	comp. inc. split	page no.s	lang.	edition etc.	criticism	reference	peripheral	neg.ref.
1	art	1969	com	13	I	(trans)			✓ (same paper)	
2	ppr	1957	inc	0	E		✓(no title)			
3	art	1968	inc	1	E		✓ (no author/title - "derived" quotation)			
4	bk	1957	com	0	G			✓		
5	bk	1963	com	0	E			✓(trans of 4)		
6	bk	1967	com	4	E				✓	
7	art	1967	com	ff	E		✓ *			
8	art	1952	com	1	E				✓	
9	bk	1967	com	6	E	(<F)		✓		
10	art	1938	com	2	E		✓ *			
11	bk	1932	com	0	G			✓		
12	bk	1953	spl	2	E			✓		
13	art	1970	com	5	E		✓ *			
14	art	1957	com	13	E		✓ *			
15	art	1968	spl	1	E		✓			
16	bk	-	inc	1	E	ed ✓				
17	art	1966	com	8	E		✓ *			
18	art	1960	com	1	E		✓ *			
19										
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TOTALS 18	bk 7 art10 ppr 1	13.53	com 13 inc 3 spl 2	0/4 59/13	E 15 G 2 I 1	1	9/6	5	3	0

Appendix 3

Analysis of citations in the literature on citation indexing and in articles from a bibliography on Goethe's Faust II.

A

Citation indexing

Source: Elizabeth Miller and Eugenia Truesdell, "Citation Indexing: History and Applications," Drexel Library Quarterly, 8 (April, 1972).

1 Adair, W. C. "Citation Indexes for Scientific Literature," American Documentation, 6 (January, 1955), 31-32.

2 Barlup, Janet. "Mechanization of Library Procedures in the Medium-sized Medical Library. VII. Relevancy of Cited Articles in Citation Indexing." Bulletin of the Medical Library Association, 57 (July, 1963), 260-63.

3 Bayer, Alan E., and Folger, John. "Some Correlates of a Citation Measure of Productivity in Science." Sociology of Education, 39 (Fall, 1966), 381-90.

4 Cawkell, A. E. "Search Strategies Using the Science Citation Index." Computer-Based Information Retrieval Systems, ed. Bernard Houghton. Hamden, Conn.: Archon Books, 1969, 25-44.

5 ________. "Using References to Retrieve Current Articles." The Radio and Electronic Engineer, 35 (June, 1968), 352-53.

6 Dorr, Hayes A., and Sher, Irving H. "The Science Citation Index System and Pharmaceutical Education." *American Journal of Pharmaceutical Education*, 32 (May, 1968), 177-88.

7 Garfield, Eugene. "Breaking the Subject Index Barrier--A Citation Index for Chemical Patents." *Journal of the Patent Office Society*, 39 (August, 1957), 583-95.

8 ________. "Can Citation Indexing Be Automated?" *Proceedings of the Symposium on Statistical Association Methods for Mechanized Documentation*, Washington, D.C., 1964, ed. Mary Elizabeth Stevens, et al. (U.S. National Bureau of Standards Miscellaneous Publication No. 269). Washington: U.S. Govt. Print. Off., 1965, 189-92.

9 ________. "Citation Indexes for Science." *Science*, 122 (July, 1955), 108-11.

10 ________. "Citation Indexing; a Natural Science Literature Retrieval System for the Social Sciences." *American Behavioral Scientist*, 7 (June, 1964), 58-61.

11 ________. "Citation Indexing for Studying Science." *Nature*, 227 (August, 1970), 669-71.

12 ________. "Citation Indexing, Historio-bibliography, and the Sociology of Science." *Proceedings of the Third International Congress of Medical Librarianship*, Amsterdam, 5-9 May, 1969. Ed. K. Ellison Davis and W. D. Sweeney. Amsterdam: Excerpta Medica, 1970, 187-204.

13 Garfield, Eugene. "Patent Citation Indexing and the Notions of Novelty, Similarity, and Relevance." Journal of Chemical Documentation, 6 (May, 1966), 63-65.

14 ________. "The Role of the Medical Librarian in SDI Systems." Bulletin of the Medical Library Association, 57 (October, 1969), 348-51.

15 ________. "Science Citation Index--a New Dimension in Indexing. Science, 144 (May, 1964), 649-54.

16 ________. "Science Citation Index--Answers to Frequently Asked Questions." Revue Internationale de la Documentation, 32 (August, 1965), 112-16.

17 ________, et al. The Use of Citation Data in Writing the History of Science. Philadelphia: ISI, 1964, 86p.

18 ________, and Sher, Irving. "New Factors in the Evaluation of Scientific Literature Through Citation Indexing." American Documentation, 14 (October, 1963), 195-201.

19 Ghosh, Jata S. "Literature Searching with the Science Citation Index; an Experimental Study." Annals of Library Science Documentation, 14 (September, 1967), 133-42.

20 Lipetz, Ben-Ami. "The Effect of a Citation Index on Literature Use by Physicists." Proceedings 1965 Congress of the International Federation of Documentation. Washington: Spartan Books, 1966, 107-17.

21 Malin, Morton V. "The Science Citation Index: a New Concept in Indexing." Library Trends, 16 (January, 1968), 374-87.

22 Margolis, J. "Citation Indexing and Evaluation of Scientific Papers." Science, 155 (March, 1967), 1213-19.

23 Martyn, John. "An Examination of Citation Indexes." ASLIB Proceedings, 17 (June, 1965), 184-96.

24 Price, Derek de Sola. "Networks of Scientific Papers." Science, 149 (July, 1965), 510-15.

25 Sher, Irving, et al. "Control and Elimination of Errors in ISI Services." Journal of Chemical Documentation, 6 (August, 1966), 132-35.

26 Spencer, Carol C. "Subject Searching with SCI: Preparation of a Drug Bibliography Using CA, Index Medicus, and SCI." M.S.I.S. Thesis, Graduate School of Library Science, Drexel Institute of Technology, Philadelphia, Pennsylvania, 1966, 72p.

27 Tukey, John W. "Keeping Research in Contact with the Literature: Citation Indices and Beyond." Journal of Chemical Documentation, 2 (January, 1962), 34-37.

[28] Hart, Harry C. "Re: 'Citation System for Patent Office.'" Journal of the Patent Office Society 31 (Sept. 1949), 714.

B

Faust II literature

Source: Ehrhard Bahr, *Die Ironie im Spätwerk Goethes ". . . diese sehr ernsten Scherze . . ." Studien zum "West-östlichen Divan," zu den "Wanderjahren" und zu "Faust II"* (Berlin: Erich Schmidt, 1972), 201-5.

I Atkins, Stuart. *Goethe, Aristophanes, and the Classical Walpurgisnacht*. *CL*, 6 (1954), 64-78.

II _______. *Goethe, Calderon and Faust: Der Tragödie Zweiter Teil*. *GR*, 28 (1953), 83-98.

III _______. "Irony and Ambiguity in the Final Scene of Goethe's *Faust*." *Festschrift in honour of Edwin Zeydel: On Romanticism and the Art of Translation*. Princeton, 1956, 7-27.

IV Blume, Bernhard. "Fausts Himmelfahrt." *Études*, 22 (1967), 338-345.

V Böckmann, Paul. "Die zyklische Einheit der Faustdichtung." P.B.: *Formensprache*. *Studien zur Literarästhetik und Dichtungsinterpretation*. Hamburg: Hoffmann & Campe, 1966, 193-209.

VI Burdach, Konrad. "Faust und die Sorge." *DVjs*, 1 (1923), 1-60.

VII Burger, Heinz Otto. "Motiv. Konzeption, Idee--das Kräftespiel in der Entwicklung von Goethes Faust." *DVjs*, 20 (1942), 17-64; Wiederabdruck: H.O.B.: *Dasein heißt eine Rolle spielen* (= Literatur als Kunst). München: Hanser, 1963, 144-193.

VIII Döring, Hellmut. "Homunculus." *WB*, 11 (1965), 185-194.

IX Emrich, Wilhelm. "Das Rätsel der Faust-II-Dichtung. Versuch einer Lösung." W.E.: *Geist und Widergeist*. Frankfurt a. M.: Athenäum, 1965, 211-235.

X Fuchs, Albert. "Faust und die Natur." Festgabe Hammerich (1962) repr. in Goethe-Studien (1968), 53-63.

XI ________. "Die Mitter. Eine Mephistopheles-Phantasmagorie." Goethe Studien, Berlin, 1968, 64-81.

XII Goldsmith, Ulrich K. "Ambiguities in Goethe's Faust." GQ, 39 (1966), 311-328.

XIII Guthke, Karl S. "Goethe, Milton und der humoristische Gott." Goethe, 22 (1960), 104-111.

XIV Hohlfeld, Alexander R. "Zum irdischen Ausgang von Goethes Faustdichtung." A.R.H.: Fifty Years with Goethe. Madison: University of Wisconsin Press, 1953, 61-91.

XV Jantz, Harold. "Goethe's Last Jest in Faust: or Faust holt den Teufel." Festschrift für Detlev W. Schumann zum 70. Geburtstag. München: Delp, 1970, 166-172.

XVI McClain, William H. "Goethe's Chorus mysticus as Significant Form." MLN, 74 (1959), 43-49.

XVII Michelsen, Peter. "Fausts Erblindung." DVjs, 36 (1962), 26-35.

XVIII Milch, Werner. "Wandlungen der Faustdeutung." ZfdPh, 71 (1951-53), 23-38.

XIX Moenkemeyer, Heinz. "Zum Verhältnis von Sorge, Furcht und Hoffnung in Goethes Faust." GQ, 32 (1959), 121-132.

XX Petersen, Julius. "Helena und der Teufelspakt." Jahrbuch des Freien deutschen Hochstifts (1936-40), 199-236.

XXI Politzer, Heinz. "Vom Baum der Erkenntnis und der Sünde der Wissenschaft. Zur Vegetationssymbolik in Goethes Faust." Jb. d.

Dt. Schillerges., 9 (1965), 346-372.

XXII Rehder, H. "The Classical Walpurgis Night in Goethe's Faust." JEGP, 54 (1955), 591-611.

XXIII Salm, Peter. "Faust and Irony." GR, 40 (1965), 192-204.

XXIV Schadewaldt, Wolfgang. "Faust und Helena." DVjs, 30 (1956), 1-40.

XXV Schröder, Franz Rolf. "Fausts Wette und Tod." GRM, 39 (1958), 226-232.

XXVI Seidler, Herbert. "Die Klassische Walpurgisnacht." ChrWGV, 73 (1969), 18-38.

XXVII Seidlin, Oskar. "Helena: Vom Mythos zur Person." PMLA, 62 (1947), 183-212.

XXVIII Staroste, Wolfgang. "Mephistos Verwandlungen. Vorbemerkungen zum Aufbau von Faust II." GRM, 42 (1961), 184-197.

XXIX Stöcklein, Paul. "Wie beginnt und wie endet Goethes Faust?" Litw. Jb. d. Görres-Ges., N. F. 3 (1962), 29-51.

XXX Wittkowski, Wolfgang. "Faust und der Kaiser. Goethes letztes Wort zum Faust." DVjs, 43 (1969), 631-51.

C

Summary of statistics

	literature on citation indexing	literature on Faust II
no. of items	27	30
between dates	1949-1970	1923-70 (4 before 1949)
average pages	14.5	21.5
lowest - highest	1 - 86	6 - 60
no. of citations	324	412
av. citations per item	12	13.7
lowest - highest	0 - 44	0 - 36
no. of citations to items on list	66	12
other citations		
: unique	157	222
: multiple	2:24	2:40
	3: 7	3:14
	4: 4	4: 1
	5: 1	5: 2
	11: 1	6: 2
		7: 2
		8: 2
average age	5. yrs.	27.5 yrs
median	4.8 yrs.	23.8 yrs
lowest - highest (average)	2.5 - 10.3	3.5 - 63.5
citations to articles	278	172
"monographs"	46	240

List of works cited

(nos 1-28 are included in appendix 3A)

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